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NAVAL POSTGRADUATE SCHOOL

MONTEREY, CALIFORNIA

MBA PROFESSIONAL REPORT

AMAZON BUSINESS AND GSA ADVANTAGE: A COMPARATIVE ANALYSIS

December 2017

By:

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Advisors: **Karen Landale**
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This project analyzes two e-commerce platforms—commercially-available Amazon Business, and federally-managed GSA Advantage—to assess the benefits and limitations of using the government purchase card (GPC) to buy from each platform. Spurred by the fact that senior acquisition leaders in the U.S. government are seeking ways to strategically manage their GPC spend, this research provides an unbiased look at these two popular e-commerce platforms. With comparisons based on prices, shipping costs, and shipping time, of commonly-purchased items, ease of use and customer satisfaction, and future improvement initiatives, we provide senior acquisition leaders the potential benefits, limitations, and risks of using Amazon Business and GSA Advantage for repetitive, GPC-based micro-purchases. We also provide ways each e-commerce platform can improve to meet the needs of its government users.

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AMAZON BUSINESS AND GSA ADVANTAGE: A COMPARATIVE ANALYSIS

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Submitted in partial fulfillment of the requirements for the degree of

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from the

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This project analyzes two e-commerce platforms—commercially-available Amazon Business, and federally-managed GSA Advantage—to assess the benefits and limitations of using the government purchase card (GPC) to buy from each platform. Spurred by the fact that senior acquisition leaders in the U.S. government are seeking ways to strategically manage their GPC spend, this research provides an unbiased look at these two popular e-commerce platforms. With comparisons based on prices, shipping costs, and shipping time, of commonly-purchased items, ease of use and customer satisfaction, and future improvement initiatives, we provide senior acquisition leaders the potential benefits, limitations, and risks of using Amazon Business and GSA Advantage for repetitive, GPC-based micro-purchases. We also provide ways each e-commerce platform can improve to meet the needs of its government users.

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LIST OF ACRONYMS AND ABBREVIATIONS

A/OPC	Agency/Organization Program Coordinators
AFI	Air Force Instruction
AFBIT	Air Force Business Intelligence Tool
AFICA	Air Force Installation Contracting Agency
AIC	Akaike Information Criterion
B2B	Business-to-Business
B2C	Business-to-Customer
BPA	Blanket Purchase Agreement
DFARS	Defense Federal Acquisition Regulation System
DPAP	Defense Procurement Acquisition Policy
DOD	Department of Defense
eMod	Electronic Modification
eOffer	Electronic Offer
FAR	Federal Acquisition Regulation
FAS	Federal Acquisition Service
FASA	Federal Acquisition Streamlining Act
FGO	Field Grade Officer
FPDS-NG	Federal Procurement Data System-Next Generation
FSS	Federal Supply Schedule
GAO	Government Accountability Office
GS	General Service
GPC	Government Purchase Card
GSA	General Services Administration
HUB	Historically Underutilized Business
IG	Inspector General
MAS	Multiple Award Schedule
OCONUS	Outside Continental United States
OMB	Office of Management and Budget
PGI	Procedures Guidance and Information
PO	Purchase Order

POC	Point of Contract
SBA	Small Business Administration
SAT	Simplified Acquisition Threshold
UPC	Unit Product Code
U.S.	United States
USD AT&L	Under Secretary of Defense Acquisition, Technology, & Logistics

I. INTRODUCTION

A. BACKGROUND

The Federal Acquisition Streamlining Act (FASA) of 1994 created the procurement category "micro-purchases." In 1994, the threshold for micro-purchases was $2,500; in 2006, the threshold was increased to $3,000, and in Fiscal Year (FY) 2017 the National Defense Authorization Act increased the micro-threshold to $5,000.[1] The FASA gave agencies the flexibility to make relatively small-dollar purchases without competition (as long as prices were considered reasonable) and without the requirement of complying with the Small Business Act or the Buy American Act (Government Accountability Office [GAO], 1995, p.7). The FASA mandated that purchases be distributed equitably among qualified suppliers (GAO, 1995). President Clinton, through executive order, directed agencies to expand the use of the government purchase card (GPC)[2] to amplify the FASA's provisions for micro-purchases (GAO, 1995, p. 5). As a result, use of the GPC to make small-dollar purchases expanded rapidly, from $527 million in FY 1993 to $18.7 billion in FY 2007 (FEDweek, 2009). This expanded use of the GPC enhanced the ability of agencies to support daily mission requirements and significantly lowered the administrative expenses that repetitive small-dollar purchases create (GAO, 2016).

GPC expenditures accounted for $19 billion of federal expenditures in FY 2015 (GAO, 2015, p. 1). Recognizing the large amount of money that the DOD spends using the GPC, Congress asked the Government Accountability Office (GAO) to assess if agencies leveraged buying power effectively when utilizing the GPC.

In their 2016 report, the GAO recommended that agencies examine spending patterns and develop guidance to explore potential cost savings. GAO found that cost saving opportunities were not identified or analyzed to reveal how category management

[1] 2017 NDAA has become law, but has not been incorporated into federal acquisition regulations.

[2] The Federal GPC Program is currently managed by the General Services Administration.

and strategic sourcing techniques could be used to further leverage buying power when using GPCs (GAO, 2016).

One method for leveraging buying power using the GPC is adherence to Federal Acquisition Regulation (FAR) 8.4, Federal Supply Schedules (FSS). FAR 8.4 prescribes procedures that agencies must follow when issuing orders using the United States (U.S.) General Services Administration's (GSA) schedules. FAR 8.404(a) states that, "orders placed following these procedures are considered to be issued using full and open competition." GSA Advantage!,[3] launched in October 1995, provided an online system for agencies to order items from GSA warehouses using their GPCs (GAO, 2003, p. 5).

FAR 8.402(c)(1) states "GSA Advantage as an online shopping service through which ordering activities may place orders against Federal Supply Schedules (FSS)." However, the GAO concluded, "GSA Advantage had limited success as a market research and online ordering tool" (GAO, 2003, p. 1). Since GAO's 2003 report, GSA has made substantial improvements to GSA Advantage. However, the government could potentially realize greater cost savings and discounts if GSA Schedules were updated more frequently, if GSA Advantage's website was more user-friendly, or if existing commercially available e-commerce platforms were deemed prioritized by FAR 8.402(c)(1).

B. PROBLEM STATEMENT

While adherence to guidance outlined in FAR 8.4 should deliver cost savings, government officials and contractors have reason to speculate that prices under GSA's Multiple Award Schedule (MAS) program, including GSA Advantage, might be too high and/or too out of date. GSA Advantage was launched in 1995 and since that time, e-commerce has expanded beyond what was imaginable in the mid-1990s (GAO, 2003, p. 5). Existing commercial online marketplaces (e.g., e-commerce giant Amazon.com[4] and its business-related platform, Amazon Business) may provide more competition,

[3] GSA Advantage! will be referred to as GSA Advantage for the remainder of the report.

[4] Amazon.com will now be referred to as Amazon for the remainder of the report.

better prices, easier-to-use web interfaces, and perhaps more preferable terms and conditions than currently exist in GSA Advantage's supply schedules.

Furthermore, installations—indeed individual GPC holders—across the federal government make decisions at the unit level. Individually, units utilize GPCs to make purchases beneath the micro-purchase threshold by buying from a multitude of vendors that essentially provide the same items at different prices and with different terms and conditions (e.g., delivery times, return policies, warranties). This decentralized procurement format, while efficient for satisfying small-dollar mission needs, precludes the opportunity to achieve cost, process, and demand savings that result from unifying or standardizing commonly purchased items. Ideally, the federal government needs an e-commerce platform that achieves the best possible pricing and terms and conditions, while simultaneously allowing individual GPC holders to purchase on an ad-hoc, decentralized basis.

C. PURPOSE STATEMENT

The purpose of our research is to conduct a business case analysis comparing and contrasting various price and process-related aspects of GSA Advantage to Amazon Business. The report will address potential benefits, limitations, and risks of using GSA Advantage versus Amazon Business for GPC micro-purchases. The goal of this project is to inform senior acquisition leaders about the relative advantages and disadvantages of each online platform in order to determine whether Amazon Business should become a FAR 8.4 prioritized source of supply.

D. RESEARCH QUESTIONS

During this research, we answer the following questions:

1. Does the GPC Guidebook or FAR limit our ability to use Amazon Business?
2. Do prices on GSA Advantage and Amazon Business compare favorably to other online ordering websites?
3. Do users prefer GSA Advantage, Amazon, or Amazon Business' website?

4. Do GSA Advantage, Amazon, and Amazon Business' Search Engine Results Page compare favorably to other online ordering websites?

5. Do GSA Advantage, Amazon, and Amazon Business' shipping policies compare favorably to other online ordering websites?

6. Do GSA Advantage, Amazon, and Amazon Business' return policies compare favorably to other online ordering websites?

7. Do users seek additional discounts or rebates when using GSA Advantage, Amazon, and Amazon Business?

8. Are users satisfied with GSA Advantage, Amazon, and Amazon Business?

9. Are vendor ratings important to users and if so, do they make purchasing decisions based on these ratings?

10. Are product reviews important to users and, if so, do they make purchasing decisions based on those reviews?

11. If users could choose, which GPC platform would they prefer?

12. Should commercial entities become a preferred or prioritized source when utilizing the GPC?

13. How do we enable more business analytics / performance management of GPC spend?

E. RESEARCH BENEFITS AND LIMITATIONS

This research informs senior acquisition leaders about the relative advantages and disadvantages of each online platform. Every attempt was made to objectively assess each online marketplace. We used historical GPC data to compare exact item pricing contained in each online platform, and we used surveys to collect candid feedback from actual GPC holders. Furthermore, we conducted interviews with representatives from GSA Advantage in order to gauge their willingness to achieve the government's ideal state of providing the best possible prices and terms and conditions while simultaneously allowing for decentralized purchasing.

As with any research, there were limitations. Due to time constraints, we limited our research to only Air Force historical GPC data and surveyed only Air Force GPC holders. While the results contained in this report are specific to the Air Force, we have no reason to believe they are not generalizable to the entire federal government. Also, due

to time constraints, we were limited in the number of exact item price comparisons that we could perform. We focused on comparing prices of 60 commercially available items (i.e., not military specific, which would bias results toward GSA Advantage) most frequently purchased by the Air Force in FY 2015. Further, while supply chain issues and legal concerns are relevant and prevalent, these types of risks are outside the scope of this study and will not be addressed. Examples of these risks include brand protection, supply chain integrity, counterfeit items, product tampering, cardholder and supplier security, and Berry Amendment concerns.

F. ORGANIZATION OF REPORT

In Chapter I, we present the background, problem statement, purpose statement, research questions, and benefits and limitations of our research. Chapter II reviews the relevant literature, including brief histories of both GSA and Amazon, and their respective business-to-business (B2B) e-commerce platforms, GSA Advantage and Amazon Business. We also provide details of the Department of Defense's (DOD) GPC program; in particular, its history, policies, and implementation guidelines. We also discuss the GAO's repeated calls for federal agencies to leverage their GPC buying power, and Air Force contracting's desire to more strategically manage their GPC spend. In Chapter III, we describe the methodology used to conduct our research. We use a three-pronged approach to our research, which included a comparative analysis of product pricing between GSA Advantage and Amazon Business, a survey of GPC holders, and interviews with leaders from GSA Advantage. Chapter IV provides the results of our analysis. Chapter V discusses our results, presents our conclusion, answers our research questions, and provides areas for future research.

G. SUMMARY

This chapter introduced our research project, beginning with a brief discussion of the origin of the GPC program. Next, we discussed the problem with the current GPC program, the purpose of our research, and our research questions. We ended the chapter with a discussion of the benefits and limitations of our research and an outline of the report. In the next chapter, we review the literature related to the GPC program, including

background information on the subject e-commerce platforms, GAO report results, and policies and regulations concerning the GPC program.

II. LITERATURE REVIEW

A. INTRODUCTION

This chapter provides a review of the literature we used to gain a comprehensive understanding of online ordering platforms and the GPC program. We begin by introducing the history of both GSA and Amazon and their respective e-commerce platforms, GSA Advantage and Amazon Business. Next, we provide details regarding the DOD's GPC program, particularly its history, policies, and implementation guidelines. Finally, we discuss the GAO's push for federal agencies to leverage their GPC buying power, and Air Force contracting's desire to more strategically manage GPC spend.

B. GSA ADVANTAGE AND AMAZON BUSINESS

For more than two decades, the DOD has purchased supplies and services from GSA Advantage. Prior to FAC 2005–7-21 issued on 30 January 2014, the use of FSS was mandatory, prioritized before commercial sources in FAR 8.002 (Government Publishing Office, 2013). Currently, the FAR, GPC Guidebook, and Air Force Instructions (AFIs) do not specially name GSA Advantage as a preferred source, and the regulations now encourage, instead of mandate, the use of FSS posted on GSA Advantage before considering commercial sources (Federal Acquisition Regulation [FAR] 8.004(a-b)). Each regulation and instruction mentions GSA Advantage multiple times. This may cause confusion, leading cardholders to place orders via GSA Advantage without proper market research to find the best source. As such, the government may be foregoing savings by not promoting commercially-available e-commerce platforms in its regulations, i.e., instilling more competition for purchases at or below the micro-threshold.

The DOD could streamline the GPC process by encouraging the use of e-commerce platforms. Amazon recently launched Amazon Business, its own business-to-business (B2B) e-commerce platform, with the promise of wholesale discounts, rebates, and granular data delivery. Because the goal of this study is to compare GSA Advantage and Amazon Business, we begin by providing the historical context and background of each organization and their e-commerce platforms.

1. GSA and GSA Advantage

a. GSA

Under President Harry Truman, GSA was established in 1949 "to streamline the administrative burden of the federal government" (U.S. Government Services Administration [GSA], n.d.). GSA was created by consolidating the National Archives Establishment, the Public Buildings Administration, the Federal Works Agency, the Office of Contract Settlement, the Bureau of Federal Supply, and the War Assets Administration. At the time of consolidation, GSA's primary responsibility was administering supplies and providing federal employee workplaces (GSA, n.d.). Before consolidation, GSA stored and safeguarded government records, maintained emergency preparedness, stored the nation's stockpile of strategic wartime assets, and disposed of war surplus.

During the Nixon Administration, GSA became involved in policy. GSA created the Office of Federal Management Policy in 1973, and in 1978, GSA's Office of Acquisition Policy centralized procurement policies. In 1985, following an executive order from President Ronald Reagan, GSA began providing policy oversight and guidance for federal real property management (GSA, n.d.). During the 1990s, all of the functions and policies managed by GSA were merged into the Office of Government-wide Policy. GSA states that this office, which is still in place today, "creates policy in real and personal property, travel, transportation, regulatory information, and use of federal advisory committees" (GSA, n.d.).

Around the start of the 21st century, GSA recognized the need to streamline daily operations by leveraging technology. GSA pioneered electronic government initiatives, including the ability to perform business over the Internet with contractors and other government entities (GSA, n.d.). Under President George W. Bush, GSA took on more responsibility, including electronic authentication (an online identity validation service that standardized identity management across the government), electronic-government travel (Defense Travel System), Federal Asset Sales (personal property and real property asset sales to agencies, businesses, and citizens), and the Integrated Award Environment

(systems and operations for award, administration, and receipt of federal financial assistance arrangements, such as grants, contracts and intragovernmental transactions) (GSA, n.d.). GSA has proven to be a leader in transforming federal government operations with new technologies, smarter acquisition platforms, and the use of innovative work spaces. In 2012, GSA was named "one of the top 10 places to work in federal government" for the seventh year in a row (GSA, n.d.).

GSA is perhaps best known for its procurement services. In 2009, President Obama signed the American Recovery and Reinvestment Act into law, restarting the economy and addressing challenges preventing the United States from thriving in the 21st century (GSA, n.d.). GSA completed over 500 Recovery Act projects, saving taxpayers $68 million per year in utility costs (GSA, n.d.). GSA also paved the way for other agencies to use cloud-based systems for email by awarding a system migration contract that resulted in 50% cost savings over the first five years.

In early 2016, GSA launched the Acquisition Gateway, an actionable data repository, as an avenue for federal government buyers to conduct business as one acquisition community. Users are able to find comparisons of government-wide acquisition solutions and pricing, communicate with other professionals within the acquisition community, leverage existing market research, find statements of work and performance work statements, etc. Recently, the Acquisition Gateway reported over 15,000 registered users and it continues to grow (GSA, n.d.).

In response to criticism from contractors about how difficult it is to start doing business with the federal government, GSA launched a series of programs within its Making It Easier initiative. These initiatives ease new companies into working with the government. The Welcome Package, a portal page customized for new industry partners, supplies current information, guidance, and resources to new companies who want to start working with the government (GSA, n.d.). The FASt Lane program gives government customer agencies faster access to emerging technologies and innovative suppliers. Participating suppliers realize shorter-than-normal processing times for information technology (IT)-related contract actions—less than 48 hours for all contract modifications and 45 days for new offers (GSA, n.d.).

While these initiatives pushed GSA into different avenues within the realm of the federal government, their focus has varied from conducting business with GSA, to GSA providing different tools that enable federal entities to serve the public on their own. Currently, GSA conducts over $50 billion in business transactions with state, federal, and local marketplaces (GSA, n.d.). GSA employs over 10,000 people at eleven regional offices located across the continental Unites States and overseas (GSA, n.d.). Regional offices provide supplies and services for GSA employees located in states assigned to that region. Each location and region specializes in consumer services, DOD support, surplus property disposal, public building construction, maintenance leasing, government-wide policy and regulations, acquisition expertise, telecommunications, childcare, and sustainability (GSA, n.d.).

GSA also provides a centralized resource for federal government procurement by offering billions of dollars' worth of supplies, services, and facilities. GSA created the Federal Acquisition Service (FAS), which provides value for the government and taxpayers by helping agencies buy smarter. The FAS manages GSA's $33 billion MAS program and partners with 19,000 commercial suppliers to provide agencies' mission requirements (GSA, n.d.). GSA Advantage is an e-commerce platform where federal agencies can procure common supplies and services. eBuy, a component of GSA Advantage, is an online procurement tool that allows customers to request quotes for (1) commercial supplies and services under GSA schedule, (2) technology contracts, and (3) network services and telecommunication contracts (GSA, n.d.). GSA Advantage and eBuy help government agencies facilitate buying power over the Internet.

To further add to its portfolio of services for government procurement, Electronic Offer/Electronic Modification (eOffer/eMod) was created as a web-based application for industry partners to prepare and submit GSA schedule offers. eOffer/eMod uses the latest digital authentication technology to submit contract offers and contract modification requests to GSA's FAS (GSA, n.d.). GSA "is committed to ensuring long-term viability, security, responsiveness, and efficiency for the federal government" (Kampschroer, 2015, p. 2).

b. GSA Advantage

GSA launched GSA Advantage in October 1995 as an online system for federal agencies to order on-hand items from GSA warehouses using a GPC (GAO, 2003, p. 5). Initially, GSA only offered items that were on-hand in its warehouses. However, with the enactment of the Clinger-Cohen Act in 1996, GSA's sole authority to buy IT goods and services (authority given by the passage of the Brooks Act) was eliminated. Clinger-Cohen introduced government-wide acquisition contracts that allowed federal agencies the latitude to self-procure against these contracts when the need arose, streamlining the acquisition process. Congress pressed GSA's Administrator to create a system capable of providing online access to federal supply service schedules for supplies and services. Hence, GSA Advantage began to transition from a warehouse ordering system to a comprehensive e-commerce platform at a time when e-commerce was becoming mainstream. During the next seven years, GSA spent $84 million in the development and maintenance of the Advantage system (GAO, 2003, p. 6).

In 2001, GSA added eBuy to Advantage, giving agencies an avenue to provide statements of work to potential suppliers and request responses (GAO, 2003, p.8). This added capability created a means to share information over a range of supplies and services (GAO, 2003). In 2002, eBuy's first year of operation, only 64 orders were placed (GAO, 2003, p. 8). In comparison, customers placed over 1,200 non-online orders each day through eBuy (GAO, 2003, p. 8). In response to its lackluster performance, GSA modified its online platform to make it easier to use. Despite improvements, GSA officials expressed disappointment about eBuy's low usage during its first year while also stating that GSA Advantage and eBuy should improve the agency's ability to conduct market research (GAO, 2003, p. 8).

In 2002, federal agencies procured $22 billion in supplies and services from commercial firms using GSA, an increase of $13.5 billion over five-years (GAO, 2003, p. 6). However, less than one-half of one percent of those sales were through its e-commerce platform, GSA Advantage (GAO, 2003, p. 6). Customers were using GSA Advantage for market research, but not for placing orders. In September 2002, only 12% of the 9,800 scheduled services were listed on GSA Advantage (GAO, 2003, p. 9).

Vendors attributed their lack of participation to the customer base's not using the system, high costs of uploading data into GSA Advantage's system, and inadequate descriptive data preventing customers from making educated purchasing decisions. With GSA Advantage's limited success, Congress asked the GAO to assess how effectively GSA had managed its $84 million investment into GSA Advantage (GAO, 2003, p. 2). GAO found that GSA's lack of business strategy contributed to GSA Advantage's limited success, and that developing a strategy would help assess whether or not GSA Advantage is the best system to provide supplies and services that meet both customer needs and vendor capability. GSA's Administrator concurred with the GAO's findings (GAO, 2003).

By May 2005, GSA Advantage amassed $1.3 billion in sales, growing as the federal government's "one-stop" source for common government purchases (Department of Defense [DOD] Inspector General [IG], 2005, p. 6). Despite sales increasing six-fold since its inception, the Inspector General (IG) found that GSA Advantage needed an effective management structure with sufficient authority and responsibility for the entire funding, management, and strategic planning of the e-commerce platform in order to ensure continued success and to reach its full sales potential (DOD IG, 2005). For example, at that time, four different geographically separated offices managed GSA Advantage's operations. Decisions related to funding and changes to the e-commerce platform were governed by the FSS Management Council, a committee of ten different office leaders and eight regional offices (DOD IG, 2005). In response to findings that further supported the need for a strategic business plan, GSA noted that the implementation of the FAS would align the electronic-business division within the FSS Office of Acquisition Management. After realignment, a more disciplined oversight would emerge, based on recommended improvement areas: strategic planning, performance measurement, investment control and capital planning, and configuration management.

The IG also found that GSA Advantage needed performance measures to guide the selection and prioritization of new system requirements, improvements for uploading vendor product data, and a thorough analysis of the costs and benefits of virtual stores, as

well as lessons learned and best practices (DOD IG, 2005). These specific steps, combined with strengthening the management of GSA Advantage, would aid the operational and technical controls of the platform. Virtual stores like GSA Advantage began as prototypes to test new technology and functionality for specific customers. With testing complete, GSA Advantage emerged as a recognized tool for agencies to meet their sourcing initiatives (DOD IG, 2005). Today, GSA Advantage describes itself as a giant e-commerce platform where only GSA schedule holders can upload supplies and services available to federal buyers (GSA, n.d.).

2. Amazon and Amazon Business

a. Amazon

With humble beginnings as an online bookstore, Amazon.com Inc., commonly known as Amazon, now dominates the online market. According to the consulting firm Deloitte (2015), Amazon ranked number one in the world's Top Ten E-Commerce Players in their "Global Powers of Retailing 2016: Navigating the Digital Divide" report, which is based on consumer sales (Deloitte, 2015). According to Forbes, Amazon is the world's eighth-largest retailer and is quickly catching up to the leader Walmart (Gensler, 2016). Founded by Jeff Bezos in 1994, the company is known for electronic commerce, electronics, prime membership, and cloud computing. Amazon's vision statement and guiding principles define the essence of the company:

> We seek to be Earth's most customer-centric company. We are guided by four principles: customer obsession rather than competitor focus, passion for invention, commitment to operational excellence, and long-term thinking. In each of our segments, we serve our primary customer sets, consisting of consumers, sellers, developers, enterprises, and content creators. In addition, we provide services, such as advertising services and co-branded credit card agreements. (U.S. Securities and Exchange Commission, 2015, p. 3).

The official Amazon website launched in 1995 and quickly rose to the number one book-related website in the world. Within two weeks, Amazon's sales were $20,000 per week (Funding Universe, n.d.). Then, within only four months, Amazon was ranked

the sixth best site on Point Communications' "Top Ten" and was placed on Yahoo's "What's Cool List" and Netscape's "What's New List" (Gale, 2006).

To raise additional capital, Amazon launched its initial public offering in May 1997 with three million shares of common stock. After going public, Amazon continued to experience exponential growth. "With customers in all 50 states and 160 countries worldwide, what started in a Seattle garage was now a company worth $147.8 million in yearly sales" (Funding Universe, n.d.). Through innovation, mergers, and acquisitions, the company continued to grow, with only minor setbacks over the years.

In 2014, Amazon reported sales of approximately $89 billion for FY 2014, which was an increase of about 19.5% over the previous period (Carpenter, 2015). Furthermore, approximately 62% of Amazon's sales take place outside the United States, and sales continue to grow each year as Amazon expands into more markets (Carpenter, 2015). In December 2015, Amazon reported a market capitalization of $314 billion, which was the highest capitalization of any company at the time (Carpenter, 2015). Amazon claims it has the "Earth's Biggest Selection," with the website offering "everything from cloud computing, books, toys, tools, videos, kitchen gadgets, electronics, furniture, and apparel" (Fundable, n.d.).

b. Amazon Business

Amazon has proven itself in the business-to-customer (B2C) market, and it is expanding to a capture a new market: B2B. Amazon Business officially launched in the spring of 2015 and already has more than 400,000 business customers (Amazon, n.d.). Amazon Business claims to be a suitable supplier for every size business, and highlights the healthcare, education, and government industries on its website (Amazon, n.d.)

The Amazon Business website, which can be accessed from Amazon.com, provides an overview of the features and services the company provides. While businesses pay a fee to sell on the website, user accounts are free. The site allows users to share payment methods, sign up multiple users, set up approval workflows, and more. The opening quote on the website sums up Amazon Business well: "Everything you love about Amazon. For Work" (Amazon, n.d.).

For users, the website interface for Amazon Business is similar to the familiar B2C interface, but with a few added features. Each user's B2B homepage is customized by product categories particular to the user's industry. Similar to the B2C interface, users use the search field to find the product they desire. Then, a list of products ranked by selected preferences appears on the Search Engine Results Page. For many items, discounts are available only to Amazon Business members. The Amazon Business product detail page highlights specifications. The page also offers "The Live Expert" function, where users are able to get answers to technical questions directly from the manufacturer. Checkout, shipping, and return policies are also similar to the B2C platform.

The Amazon Business checkout page contains new features with the same interface and function as the B2C site. Once users select a product to purchase, the item is placed in the checkout basket. The checkout page contains a Purchase Order (PO) Reference cell where users can add their own tracking number. The PO number ensures accurate routing and reporting of the order. Next, users choose their shipping options. All orders of $25.00 or higher of "eligible items" qualify for free shipping (Amazon, n.d.). However, the item must be labeled with the free shipping message to qualify.

Amazon Business also offers Business Prime shipping plans. For companies with over 100 users, an enterprise-shipping plan is available for $10,099.00 per year (Amazon, n.d.). The Business Prime shipping plans include free, two-day shipping on all eligible items. Businesses can also choose the type of payment. Amazon Business accepts corporate purchasing cards and corporate credit accounts. It also offers tax-exempt purchasing for qualified organizations. Once the order is complete, the user will receive a confirmation email, and they can log onto their account to check the shipping status at any time.

According to the Amazon Business webpage, vendors register for a "Professional Selling Account" on Amazon Business the same way they register on the B2C site. After registration, the vendor joins the "Amazon Business Seller Program." The Amazon Business Seller Program provides "vendors with features to help grow their sales on Amazon Business," which includes "the ability to offer products available only to

business customers" (Amazon, n.d.). Currently, the fee associated with selling through Amazon Business is the same as the B2C site, which is a subscription fee of $39.99 per month (Amazon, n.d.). While Amazon Business highlights the education, healthcare, and government industries, this report focuses on Amazon Business's potential as a prioritized e-commerce platform for micro-purchases within the government, a role that has historically belonged to GSA Advantage.

In particular, Amazon Business aims to partner with government agencies. The Transportation Security Administration and the Department of Energy launched pilot programs in 2016. The program consists of large and small businesses selling products and services through Amazon Business's e-commerce platform to government agencies. The Air Force is currently negotiating terms and conditions for a pilot program in the near future. Currently, Amazon Business does not offer formal training for businesses or a customer-ordering guide; however, the site does offer a help center where businesses and users can submit questions.

As with any new business venture, Amazon Business is experiencing challenges in working with the government. Current issues include managing accounts (which affects invoicing and payment), shipping, and small business verification. To work through these issues, Amazon Business started a tiger team called the Amazon Federal Focus Group. One of the first issues found by the Focus Group was the user's ability to manage their accounts. To use the system, some users needed two user accounts; one to purchase and one to approve. Next, the Focus Group found issues with shipping. If the user placed a large order that could not be filled by one warehouse, the shipment was split in two, and the agencies received two invoices. This made it appear as though the agency split the requirement, which is against government procurement regulations. Then, the Focus Group found an issue related to invoices for purchases from small businesses. Currently, on government invoices from Amazon Business, the size of the vendor business is not shown. The invoice only shows Amazon, which is a large business, even though the actual purchase may be from a small business. Future invoices for the government will need to show the purchase was from a small business in order to meet federal socioeconomic goals. Amazon Business is quickly working to alleviate

these issues. It is improving the consolidation of accounts and making the website more user friendly.

Amazon Business stated that its goal is to connect small business to the government with a user-friendly website that boasts great customer service (Amazon, n.d.). According to Amazon Business, supplier information on the business page includes SBA.gov certification, with the small business supplier's name linking directly to their Small Business Administration (SBA) certification on SBA.gov (2017). By connecting small businesses to the government through a user-friendly website, Amazon Business will enhance competition, particularly for purchases under the micro-purchase threshold.

The potential partnership between Amazon Business and the government would provide the government with another e-commerce platform either in lieu of, or in addition to, GSA Advantage. Already more than 400,000 business customers use Amazon Business (Amazon, n.d.). Through the Amazon Business website, users can use their GPC to make small purchases, potentially at a negotiated rate beyond the prices displayed on the website. The next section discusses the DOD GPC program and its associated regulations and guidance.

C. DOD GPC PROGRAM

The DOD GPC Program is "intended to streamline small purchase methods by minimizing paperwork, streamlining the payment process, and simplifying the administrative effort normally associated with traditional purchase methods for supplies and services" (Air Force Instruction [AFI] 64–117, 2011, p.5). The GPC Program, also known as the GSA SmartPay Program, provides individual users a charge card with the ability to purchase and pay for simple, low-dollar value items (AFI 64–117, 2011). The GPC is the preferred method for any acquisition at or below the micro-purchase threshold (FAR 13.2), which is currently "$3,500 for supplies, $2,500 for services, and $2,000 for construction" (FAR 2.101).

The DOD GPC program is managed by the Office of the Under Secretary of Defense (Acquisition, Technology and Logistics) (USD (AT&L) through its Purchase Card Program Management Office. From FY 2010 to 2015, "cardholders spent a range of

approximately $17 billion to $19.5 billion annually in goods and services using purchase cards "(GAO, 2016, p. 4). In FY 2015, the DOD made 52,487 purchase card transactions, 52,345 transactions were micro-purchases (97.1% of the total) (GAO, 2016, p. 5).

Published on 17 March 1982, Executive Order 12352 set "forth requirements for Federal agencies to establish programs for reducing administrative costs and other burdens that the acquisition functions may impose on the federal government and the private sector" (AFI 64–117, p.5). To replace the traditional PO process, the DOD adopted the purchase card for procurement offices. GSA was awarded the multiple-award schedule contract to provide the government with purchase cards and associated services. Referred to as "The Bank" in AFI 64–117, GSA provides a Visa credit card, which is used to make immediate payments to vendors and contractors (2011).

In 1994, the FASA extended the GPC Program "from procurement offices to individual government cardholders" (GAO, 2016, p. 4). The FASA "authorized government cardholders to make purchases under the micro-purchase threshold without obtaining competitive quotations if the price to be paid was considered reasonable" (GAO, 2016, p. 4). The FASA also states that cardholders should "distribute their purchases equitably among qualified suppliers" (GAO, 2016, p. 4). The FASA improved the ability of agencies to purchase products and services that support daily operations without the administrative burden of traditional contracting methods.

1. Policies and Regulations

All GPC policies, guidebooks, and regulations are found on the Defense Procurement and Acquisition Policy (DPAP) website. DPAP provides a Policy Log Matrix that lists all relevant purchase card policies, including a summary of each policy, by year. The Policy Log Matrix describes 110 policies published from 1998 to 2017, with the most recent policy memo titled "2017 GSA SmartPay Training Forum" (published on 9 March 2017). DPAP also provides and maintains procedural guidance, known as the *Department of Defense Government Charge Card Guidebook for Establishing and Managing Purchase, Travel, and Fuel Card Program.* The GPC Guidebook outlines all

mandatory processes and procedures for using the GPC to purchase from GSA Advantage, Amazon Business, or any other retailer.

2. GPC Guidebook

According to DPAP, the GPC Guidebook's purpose is to help "DOD officials establish and manage their charge card programs" (DPAP, 2015, p. 1–1). The guide's goal is to "streamline and consolidate processes common to the purchase, travel, and fuel card programs" (DPAP, 2015, p. 1–1). The Guidebook provides specific guidance pertaining to the use of the GPC in contingency and humanitarian aid operations, OCONUS shipments, travel, and other topics (DPAP, 2015). For this research, we are particularly interested in the topic of unique business rules pertaining to the use of the GPC to purchase from mandatory and non-mandatory sources.

a. Types of Use

According the DOD GPC Guidebook (2015), the GPC program includes five different types of use. The first use is for micro-purchases in accordance with FAR Subpart 2.101 (2015, A-2). This includes "routine purchases and those made when special circumstances apply" (DPAP, 2015, A-2). The second use is for micro-purchase convenience checks. As an alternative to GPC transactions or formal contracting, "convenience checks should only be used when the use of the GPC is not possible" (DPAP, 2015, A-3). The third use is ordering officer purchases. Ordering officers must use the card for mission-essential purchases and ensure the purchase is within their purchase limit stated in the Cardholders Delegation Authority Letter. The Ordering officer must also ensure the specific funding type is available (DPAP, 2015, A-9). The fourth use is contract payments. According to the regulation, when the GPC is used, requirements must be fully funded and progress payments are not authorized (DPAP, 2015, A-14). The fifth use of the GPC is training requirements on Standard Form 182. According to FAR 13.2, the GPC "shall be the method of payment for all commercial training requests valued at or below $25,000." Each use of the GPC is governed by unique policies, procedures, training, and oversight.

b. Preferred Method for Micro-purchases

According to Far 13.2, the GPC "shall be the preferred method to purchase and pay for micro-purchases." The GPC Guidebook states, "only organizations with procurement authority are authorized to establish a GPC program. Once an organization establishes their program, the GPC shall only be used for mission-essential purchases" (DPAP, 2015, A-8). Furthermore, according to FAR 13.003(c)(2), the GPC "shall not be used to split payments or to split purchases to avoid exceeding the authorized micro-purchase limit." The GPC Guidebook outlines key steps in using the GPC, approved sources of supply, small business participation, order competition, reporting procedures, strategic sourcing, and mandatory laws and reviews. We discuss each of these important sections of the Guidebook in the following paragraphs.

c. Key Steps in Using the GPC

The 2015 GPC Guidebook lists steps in using the GPC to make purchases. The Guidebook states that the first mandatory step is to "identify the requirement and ensuring it fulfills a mission essential need" (2015, A-8). The Guidebook states that personnel requesting the acquisition of a product or service with a GPC "should provide written request (email is acceptable) to the cardholder" (2015, A-8). According to the Guidebook, "If it is not possible for the requester to make the request in writing, the cardholder should document in their file the requester's name, item description, quantity, estimated cost, and date of request" (2015, A-8).

d. Required Sources of Supply and Other Sources

Before making a purchase, the cardholder must screen for required sources of supply. FAR Part 8 lists five mandatory sources of supply in descending order of priority:

- Inventories of the requiring agency
- Excess from other agencies (see FAR Subpart 8.1)
- Federal Prison Industries, Inc. (see FAR Subpart 8.6)
- Supplies which are on the Procurement List maintained by the U.S. Ability One Commission (formerly known as the Committee for Purchase From People Who Are Blind or Severely Disabled) (see subpart 8.7)
- Wholesale supply sources, such as stock programs of the GSA (see 41 CFR 101–26.3), the Defense Logistics Agency (see 41 CFR 101–26.6),

the Department of Veterans Affairs (see 41 CFR 101–26.704), and military inventory control points (FAR Part 8)

If the mandatory sources listed in FAR 8.002 and 8.003 do not apply to or meet the need of the requirement, the cardholder is encouraged to use the list of non-mandatory sources of supply IAW FAR 8.004 (Use of other sources). In sections A.4.5 and A.1.2.2, the GPC Guidebook specifically calls out GSA Advantage as an available, non-mandatory, but prioritized government source. For supplies, FAR 8.004 lists the following sources in no order or priority:

- FSS
- Government-wide acquisition contracts
- Multi-agency contracts
- Any other procurement instruments intended for use by multiple agencies, including blanket purchase agreements under FSS contracts (FAR 8.004)

The point of this section of the Guidebook is to mandate the use of existing DOD supplies (i.e., what is already available in DOD inventories) and the use of supplies delivered via federally-supported programs (e.g., Federal Prison Industries, AbilityOne, etc.). If the mandated sources cannot support the requirement, non-mandatory sources, such as the FSS, are preferred over outside sources because a government agency has already gone through the process of setting up the contract/schedule and determined prices to be fair and reasonable. Cardholders are encouraged to use the items available within the government prior to using commercial sources available in the open market.

When making a purchase, the cardholder shall attempt to distribute orders equitability among contractors (FAR Subpart 8.405-1(b)), to perform transactions with qualified suppliers (FAR Subpart 13.202(a)(1)), and ensure transactions with responsible vendors (FAR 9.402).

e. Small Business

When purchasing from non-mandatory sources, the cardholder must also refer to FAR 7.105(b) and FAR Part 19 regarding considerations of small business concerns, including veteran-owned small businesses, service-disabled veteran-owned small businesses, historically underutilized business (HUB) zone small businesses, small disadvantaged businesses, and women-owned small businesses. The GPC Guidebook

states, “although there is no absolute requirement to purchase from small businesses, you should provide small businesses maximum practicable opportunity to participate in procurements related to contingency or humanitarian aid operations” (DPAP, 2015, p. B-12). AFI 64–117 states, “cardholders should strongly consider using small and small disadvantaged businesses whenever possible” (2011, p.18).

f. Price

The cardholder should consider the nature of the item or service when deciding how many vendors to consider. The preferred method for ensuring price reasonableness is “comparing prices offered by other suppliers for the exact or similar item” (AFI 64–117, 2011). Competition is not necessary for individual purchases if vendors furnish standing price quotations on a periodic basis and their prices remain current. AFI 64–117 does not define how often these periodic confirmations should be made.

g. *Reporting Procedures*

Purchases made with the GPC shall follow the contract reporting procedures stated in the Defense supplement to the FAR, the Defense Federal Acquisition Regulation (DFARS), Procedures Guidance and Information (PGI) Subpart 204.602 (DPAP, 2015, A.1.6.1). The purchase shall be reported to the Federal Procurement Data System-Next Generation (FPDS-NG) if the GPC is used to enter into a contract and is used solely as the method of payment. Any purchase or order placed under a federally-awarded contract shall also be reported to FPDS-NG using express reporting procedures. Any micro-purchase made on the open-market, and not on a FSS, is not required to be reported to FPDS-NG (DPAP, 2015, A.1.6.1). The distinction between what is, and what is not, reported is important, as it affects the type and availability of data that can be used to analyze GPC-related spend.

h. Strategic Sourcing

In Section A.4.6, the DOD GPC Guidebook (2015) discusses strategic sourcing. Agencies are encouraged to identify recurring purchases made by the GPC. Then, when appropriate, agencies should combine similar acquisitions into service contract vehicles

or blanket purchase agreements where the GPC is used. This presents a challenge for the Air Force because, currently, installations across the Air Force make GPC purchasing decisions at the unit level. This decentralized decision making precludes the opportunity to achieve cost, process, and demand savings that result from unifying or standardizing commonly purchased items. Individually, units utilize the GPC to make purchases beneath the micro-purchase threshold by purchasing from a multitude of vendors that essentially provide the same items at different prices and varying delivery times. According to the GAO, other agencies such as the Environmental Protection Agency and the Department of Interior have identified opportunities for savings through their GPC programs. As recommended by the Office of Management and Budget (OMB), the agencies "took additional steps to analyze purchase card spending habits and patterns" (GAO, 2016). The Air Force is currently looking for ways to save costs via its GPC program, which led to the development of this study.

i. Mandatory Laws and Reviews

The DOD GPC Guidebook lays out mandatory laws and requirements applicable to all GPC purchases. For example, contractors paid with the GPC "shall not provide products from Cuba, Iran, Libya, Sudan, or North Korea, or any entity or individual listed by the Office of Foreign Assets Control as Specially Designated Nationals or Blocked Persons" (DPAP, 2015, B-9). When using Amazon Business, cardholders must ensure the products are not from these countries. GSA Advantage schedules already meet this standard.

To ensure all legal procedures are followed, the DOD GPC Guidebook mandates a review of each managing account annually (2015). DPAP provides the *GPC Checklist and Certification* for the annual review (DPAP, 2012). The intent of the annual review is to ensure "compliance with GPC program policy/guidance and other applicable government regulations, policies, and procedures; and to identify any GPC misuse, fraud, waste, and abuse" (DPAP, 2015, p. 1). The DPAP website also encourages the use of the "Best Practices" Checklist, but it is not mandatory. It is important to note that this particular checklist is not tailored for any agency.

Clearly, there are several policies and procedures that apply to the use of the GPC, regardless of whether the cardholder is purchasing from GSA Advantage, Amazon Business, or any other source. Before making a purchase, cardholders must screen for and use mandatory sources of supply (FAR PART 8). If the requirement cannot be met by a mandatory source, the cardholder must consider the use of non-mandatory sources of supply (FAR 8.004). The FAR encourages the use the of pre-negotiated government contacts over the use of commercial sources; however, there is no statutory requirement to do so. Finally, the cardholder must follow all laws and procedures, alternate sources to allow equitable distribution of transactions with responsible vendors, and ensure prices paid are fair and reasonable.

D. GAO REPORTS AND AIR FORCE INITIATIVES

1. GAO Reports

The GPC Program was created to streamline purchases of relatively small-dollar purchases (DPAP, 2015). However, even small-dollar purchases can add up to billions of dollars of spend. In FY 2015, $19 billion in government spending was spent using GPCs (GAO, 2016, p. 1). Due to the large amount of spend, Congress asked GAO to review whether agencies are leveraging GPC buying power effectively. In their 2016 report, the GAO assessed each agency's level of effort. The report also examined if cardholders sought cost saving opportunities when utilizing the GPC.

In a previous report issued in 2004, the GAO found that agencies did not take full advantage of opportunities for more advantageous pricing with repeat sources of supply. Following this report, agencies took measures to protect and better manage purchase card programs, and have initiated efforts focused on strategic sourcing (GAO, 2016). OMB also took steps to codify and implement strategic sourcing, pushing federal agencies to think more strategically about all of their purchases, to include small-dollar, GPC purchases. The goal of strategic sourcing is to "increase the value of each dollar spent by the government" (GAO, 2016). In response to OMB's 2014 initiative, *Transforming the Marketplace: Simplifying Federal Procurement to Improve Performance, Drive Innovation, and Increase Savings*, GSA created a category management structure that

will allow the federal government to buy smarter, looking at spend as a single enterprise, rather than dozens of smaller entities (Kampschroer, 2015). GSA states "category management will enable the government to eliminate redundancies, increase efficiency, and deliver more value and savings from the government's acquisitions programs" (Kampschroer, 2015).

The GAO found although agencies have implemented purchase card data into strategic sourcing analyses, data challenges have significantly hindered the analysis of purchase card data. Performing a spend analysis makes it possible to identify top products or services that should be prioritized for strategic sourcing (GAO, 2016). The GAO found that regardless of whether purchase card data was included into an agency's aggregate spend analysis, its inclusion had a very small effect on results (GAO, 2016). In short, to adequately understand if and how GPC spend can be strategically sourced, it should be analyzed separately from the much larger, contract-related spend data.

Agency officials cite several analytical challenges regardless that purchase card data are available. The data from purchase cards are not sufficient and do not support the level of detail needed to focus on specific groups of commodities or services to identify strategic sourcing opportunities. While bank data provides vendor name, merchant category codes, date of transaction, and dollar amount; level three data (known as transaction-level data), would give better detail regarding quantity purchased, unit prices, and more specific item descriptions (GAO, 2016). The availability of level three data is entirely dependent on vendors—if it is not submitted to the bank utilized by the vendor, the bank does not have access to this level of data granularity. When these data are not provided, agencies have to rely on merchant codes, which are just a generalization of what the vendor sells and the total amount spent with each vendor.

The GAO conducted an 18-month analysis on level three data and found that level three data fields are not standardized. GAO found that "approximately 36% of records surveyed did not contain information in data fields meant to provide a description of the item being purchased" (2016, p.11). Additionally, the GAO found that vendors used several merchant codes for one vendor, further complicating spend analyses, which

requires data cleaning. This lack of data standardization impedes the ability to conduct a thorough spend analysis.

The GAO also found that vendors are listed under multiple names. A leading retailer was identified with 5,000 variations of its name (GAO, 2016, p.15). Vendors that have multiple franchises or multiple locations complicate and add to the complexity of performing a proper spend analysis. This precludes agencies from developing top vendor lists and, thus, strategically sourcing GPC-related spend.

Despite it accounting for one-fourth of total dollars spent across all departments, the GAO supplied evidence that the DOD "did not perform analyses of purchase card spending" (2016). The DOD explained that analysis of spend is not conducted across the entire department, but rather at the component level. The DOD was able to provide examples of steps taken to analyze purchase card spend data. For example, the Army reported that it "coordinates with U.S. Bank to perform an annual review of spending to identify potential strategic sourcing opportunities" (2016, p.13). The Navy and the Air Force, however, did not supply evidence of any type of analysis with the purchase card (GAO, 2016). The GAO stated "until the Office of Defense Procurement and Acquisition Policy issues agency-wide guidance or direction on analysis of purchase card spending, components may be inconsistently identifying cost saving opportunities" (GAO, 2016, p. 18).

To incorporate their findings, the GAO recommends that "each agency develop guidance to encourage local officials to examine purchase card spend patterns" (2016). In response to the GAO's recommendations, the DOD agreed to issue guidance to ensure officials take steps directly aimed at analyzing purchase card data for potential cost saving opportunities.

2. Air Force Initiatives

The Air Force, and in particular the AFICA, which is responsible for executing all above wing-level acquisitions (also known as enterprise-level solutions), is looking for ways to more strategically manage Air Force GPC spend. Working with its mission partners, AFICA has planned and executed strategic sourcing initiatives for larger

acquisitions in the past, and is currently moving toward implementing category management as part of the larger, federal-level OMB initiative. Knowing that the level of data granularity would prevent a proper spend analysis, and that micro-purchase requirements are typically unplanned and thus do not lend themselves to a purchasing strategy, AFICA began looking for other ways to achieve savings on small, micro-purchase-level purchases.

Simultaneously, and somewhat serendipitously, Amazon Business approached the Air Force with an offer of incentives for using Amazon Business as an e-commerce platform for micro-purchases. Intrigued, AFICA approached the Naval Postgraduate School to perform a study that would examine the tangible and intangible costs and benefits of using the GPC to make purchases with GSA Advantage and Amazon Business. The goal of this study is not to make strategic sourcing decisions for the Air Force's GPC spend; rather it is to compare and contrast the tangible and intangible costs and benefits of two e-commerce platforms, GSA Advantage and Amazon Business, to determine if the Air Force can achieve savings by establishing a platform preference.

E. SUMMARY

This chapter presented a brief history of GSA and Amazon and their respective e-commerce platforms, GSA Advantage and Amazon Business. We reviewed federal regulations and AFIs that govern the GPC program, highlighting important mandatory and prioritized sources. The GAO and IG reports highlight areas for improvement—ways the DOD and Air Force can improve their GPC programs in order to reap additional cost savings. The next chapter reviews the methodology used to compare GSA Advantage's and Amazon Business' tangible and intangible costs and GPC holder preferences.

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III. METHODOLOGY

A. INTRODUCTION

In this chapter, we explain our process for collecting and analyzing data to answer our research questions. Our research assesses current micro-purchasing strategies and behaviors of GPC cardholders within Air Force units, and also explores potential business arrangements with GSA Advantage and Amazon Business. To gather data for this study, we utilized a three-prong approach. First, we compared pricing and ordering details of the Air Force's most commonly purchased items between GSA Advantage and Amazon Business. Next, we surveyed Air Force GPC holders to understand current purchasing preferences and behaviors. Finally, we interviewed leaders from GSA and Amazon Business to assess current and future endeavors of both platforms.

B. COMPARISON OF COMMONLY PURCHASED ITEMS

This section provides an overview of our comparative research of commonly purchased items procured with the GPC. The first subsection describes how we identified individual research items. The next section describes the formulation of comparative data points. The final section describes the process for looking up the items using GSA Advantage and Amazon Business.

1. Identification of Commonly Purchased Items

AFICA provided our research team with GPC data from individual units throughout the Air Force using the Air Force Business Intelligence Tool (AFBIT). The spreadsheet consisted of 1,048,575 line items of raw GPC data from FY 2015. The data included the five largest categories of spend:

- Computers, computer peripheral equipment, software
- Medical, dental, ophthalmic, hospital equipment, and supplies
- Industrial supplies, not elsewhere classified

- Stationery, office supplies, printing, and writing paper
- Business services, not elsewhere classified

The data did not consistently list descriptions and other identifiable information for every line item, rendering the data difficult to decipher commonly purchased items within the categories listed above. Initially, we tried to derive the top 25 line items from each category, but the data was indecipherable. For example, office supplies appeared under computer equipment, etc. Furthermore, not all fields within the data contained values. For instance, some fields were blank or contained erroneous descriptions such as "0" in the field, unidentifiable numbers, or generic descriptions like "invoice."

To filter and identify items, we used Excel's Pivot Table function. To identify repetitive buys, we created conditions that pulled repetitive purchases using the item description field and the number of times that line item appeared in the entire data set. We then sorted purchased items from most purchased to least. For our research, we selected the 60 most commonly purchased items that were identifiable in the data set. We did not include military-specific items, as they were more likely to be available from GSA Advantage and not available from Amazon Business. We also tracked each item's percentage of spend from the total value of the data set.

2. Formulation of Comparative Aspects

To compare the items, we captured the following details from each platform:

- Item Description
- Manufacturer Part Number
- Vendor Name
- Price
- Socioeconomic Designation
- Vendor Rating

- Quantity Discount
- Shipping Days
- Shipping Cost
- Packaging/Number of units
- Product Origin
- Fulfillment Source
- Minimum Purchase Requirement

We attempted to quantify tangible costs and benefits wherever practical, recognizing that intangible costs and benefits are also important, though less quantifiable. While we wanted to compare every aspect of the purchase experience, we could not accurately capture some aspects. We considered tracking warranties, but most of the items were consumable office products where a warranty would not apply. We chose not to track return policies because most items purchased from Amazon Business fell under Amazon's umbrella return policy. Within GSA Advantage, most items fell within their schedule's return policy.

3. Comparative Research Procedures

To compare the items, we tried to remain as unbiased as possible by having one researcher look up data in GSA Advantage, and the other researcher look up data in Amazon Business. However, due to unidentifiable data descriptions and a lack of manufacturer part numbers, we had to conduct research together, which ensured that we were comparing exact products and not similar, yet different brands. We conducted the research over three days on the NPS campus.

After selecting the 60 most commonly purchased items, we began searching for the items on both platforms. First, we typed the exact item description from the AFBIT spreadsheet into the GSA Advantage and Amazon Business search functions. Due to the abbreviated nature of the words, matching exact items on both platforms proved difficult.

For example, our first item was "PORTFOLIO PAPER, DA." Different results appeared on Amazon Business than on GSA Advantage, so we were forced to use one website first and obtain a manufacturer part number to enter into the other platform. After trial and error, we found it most efficient to search from GSA Advantage first, and then match the item on Amazon Business. Regardless of which platform we first searched an item, the nature of the search results did not change.

After matching the exact item, we documented purchase data from the five lowest cost vendors of that item. However, not every item could be matched to five vendors on both platforms. In those cases, we collected data from all available vendors. We concluded after successful comparison of 60 items.

C. GPC SURVEY

This section describes the process for designing our GPC Survey, which assesses processes, behaviors, and preferences of cardholders using GSA Advantage, Amazon Business, and Amazon. It is important to note that we designed the survey with the assumption that many cardholders may not have had the opportunity to use Amazon Business platform yet, so we included questions about both Amazon Business and Amazon.com, as the two platforms are very similar. Using the survey, respondents rated each company's website, policies, prices, and their customer satisfaction.

1. Survey Design

We crafted our questions to collect both demographic data (e.g., gender, age, rank, and experience using the GPC), and platform use data. Platform use data asked respondents to compare aspects of GSA Advantage's, Amazon Business', and Amazon.com's online ordering platforms. Respondents rated the Search Engine Results Page, prices, shipping, and return policies as worse, similar, or better than other online ordering websites. Finally, respondents rated their customer satisfaction with the platform and were asked which platform they preferred using. The questions were asked in a conditional manner—if the respondent had never used Amazon Business, the survey automatically skipped to the next set of questions. The bank of 43 questions was presented to a pool of GPC subject matter experts for review and comment prior to

uploading into the survey platform, https://survey.nps.edu. The survey was tested by multiple test users prior to sending the link to potential respondents. Total time to complete the survey was approximately ten minutes.

2. Survey Distribution

We designed the survey for Air Force GPC holders. To ensure the number of respondents was statistically significant, AFICA forwarded the survey to Air Force Level-Three Agency/Organization Program Coordinators (A/OPC), who distributed the survey to base-level A/OPCs. Installation-level A/OPCs forwarded the survey to individual cardholders within their area of responsibility. Participation in the study was voluntary, and respondents were able to withdraw participation at any time. All participant responses remained anonymous. We anticipated receiving 300–450 responses from a total pool of 24,610 potential responders. The survey remained active for 47 days. A follow-up reminder was sent 20 days after the initial send. A total of 429 respondents completed the survey, which represents 1.74% of the total cardholder population.

D. INTERVIEWS

To supplement the quantitative data obtained from the common item comparison and survey, we attempted to interview leadership from GSA Advantage and Amazon Business. The goal of the interviews was to understand current business arrangements, as well as future GSA and Amazon Business endeavors, and how those endeavors affect the Air Force.

1. Interview Design

In order to gather comparable data and to eliminate any potential bias, we developed similar interview questions for GSA Advantage and Amazon Business. However, because GSA Advantage is a listed in the FAR as a prioritized source of supply and Amazon Business is not, we tailored some questions for each entity. The interview questions asked about current goals, customer service, continuous improvement processes, and policies. The questions also explored small business processes and the

potential to achieve greater data granularity. The interview questions are provided in Appendices A and B.

2. Interview Procedures

We emailed the interview request, along with the interview questions, to each company's point of contact (POC). The email explained the purpose of the research and requested a teleconference at the POC's convenience. Once the POC received the email, the researchers expected a follow-up email with a time and date to call. If the POC did not provide a follow-up email within two weeks, the researchers called the POC to request a teleconference. After initial dialogue with Amazon Business and subsequent conversations, they declined to participate in this research. Once the interview was scheduled with GSA and consent to participate was obtained, the interview took place. The interview consisted of 23 questions and took approximately 90 minutes to complete.

E. SUMMARY

The research methodologies described in this section were used to assess the quantitative and qualitative strengths and weaknesses of GSA Advantage and Amazon Business. We assessed price and process differences of commonly purchased items, captured GPC holder's assessments of each ordering platform, and collected current business arrangements and future endeavors for GSA Advantage. In the next chapter, we summarize all quantitative and qualitative results.

IV. RESULTS

A. INTRODUCTION

In this chapter, we explain the results of our comparative analysis, survey, and interview. We used the data we collected to perform a comparative analysis of the two online platforms. The survey described preferences of GPC holders, and the interview provided insight into GSA Advantage's future goals. The results are provided below.

B. COMPARISON OF COMMONLY PURCHASED ITEMS

This section provides the results of our comparative research of commonly purchased items procured with the GPC.

1. Prices of Commonly Purchased Items

Of 300 vendors that offered the 60 compared items, GSA Advantage offered the lowest price 80% of the time (241 times out of 300). Although GSA Advantage offered the lowest price more frequently, every item had a minimum order requirement. Amazon Business did not have any stated minimum order requirements for any items that we examined.

The tables in this section show different observations about the data. For each observation, we display a subset of the 60 items that were compared, abbreviating the full results for brevity. The complete results of our research are attached in Appendices C-I. We start by showing the minimum and maximum prices between each platform. Then, we compare quantity discounts, shipping days, and small business representation. We also show vendor ratings and product origins from Amazon Business. We end by showing minimum order quantities required by GSA Advantage.

a. Lowest and Highest Prices

Table 1 compares the prices of the items between each platform. The table highlights which platform offered the lowest price and which platform had the highest

price for each item. At times, GSA offered the lowest and highest price for the same item; other times Amazon Business offered the lowest and highest price for the same item.

Table 1. Lowest and Highest Prices

Item	Item Description	Average Price	
		GSA	AB
1	Smead Mead Heavyweight 2-Pocket Portfolio	$18.30	$27.56
2	Boise Polaris Premium Multipurpose Paper	$39.25	$47.58
3	7510012360059 Document Protector	$5.32	$7.33
4	Skilcraft Gregg Ruled Steno Book	$8.29	$22.14
5	7530 Notebook, Steno	$16.49	$26.81
6	Double Pocket Portfolio, Letter Size, Dk Blue	$12.42	$13.56
7	Mechanix Wear MP3-F55-010 TAA Compliant	$40.27	$85.63
8	Energizer Industrial Alkaline Batteries, AA	$3.31	$11.49
9	Wilson Jones Basic Round-Ring View Binder Plus Pack, 1" Cap, White	$9.02	$15.32
10	Skilcraft Dry-Erase Markers	$6.06	$10.13
11	G2 Fashion Collection Gel Roller	$6.14	$16.50
12	United Stationers (OP) 8105011958730 Bag Clear 10 Gallon	$9.46	$29.85
13	Brother P-touch ~3/8" (0.35") Black on White Standard Laminated Tape	$8.12	$10.93
14	Saalfeld Redistribution Lysol Surface Disinfectant Cleaner	$6.64	$15.96
15	Accelerator-free Disposable Nitrile Glove, Powder Free, Small	$7.41	$28.23

b. Bulk and Quantity Discounts

Table 2 shows a sample of the bulk/quantity discounts offered by each platform. GSA Advantage listed quantity discounts by schedule, while individual vendors offered quantity discounts on Amazon Business. Of the 60 items, only six GSA Advantage schedules offered a quantity discount. On Amazon Business, only seven vendors offered quantity discounts. However, while Amazon Business offered discounts with lower minimum quantities, Amazon Business' prices were still higher than GSA Advantage's– even with the discount applied. Both platforms had a quantity discount on item two and item nine, as shown in Table 2.

Table 2. Bulk/Quantity Discounts

Item	Item Description	Quantity Required & Discount			
		GSA		AB	
1	Smead Mead Heavyweight 2-Pocket Portfolio	-	-	-	-
2	Boise Polaris Premium Multipurpose Paper	3,000 - 4,999 5,000 - 9,999 10,000+	2.00% 3.00% 5.00%	4+	0.98%
3	7510012360059 Document Protector	-	-	-	-
4	Skilcraft Gregg Ruled Steno Book	-	-	-	-
5	7530 Notebook, Steno	-	-	-	-
6	Double Pocket Portfolio, Letter Size, Dk Blue	-	-	-	-
7	Mechanix Wear MP3-F55-010 TAA Compliant	25,000 - 99,999,999	2.00%	-	-
8	Energizer Industrial Alkaline Batteries, AA	-	-	-	-
9	Wilson Jones Basic Round-Ring View Binder Plus Pack, 1" Cap, White	20,001 - 99,999,999	1.00%	4+	0.92%
10	Skilcraft Dry-Erase Markers	-	-	-	-
11	G2 Fashion Collection Gel Roller	-	-	-	-
12	United Stationers (OP) 8105011958730 Bag Clear 10 Gallon	-	-	-	-
13	Brother P-touch ~3/8" (0.35") Black on White Standard Laminated Tape	-	-	-	-
14	Saalfeld Redistribution Lysol Surface Disinfectant Cleaner	-	-	-	-
15	Accelerator-free Disposable Nitrile Glove, Powder Free, Small	-	-	-	-

c. Shipping

This section discusses the shipping details for each platform. Table 3 displays Amazon Business' shipping time and cost, and Table 4 displays the same information for GSA Advantage. On Amazon Business, the average shipping time was 9.25 days and the average shipping cost was $2.33.[5] For GSA Advantage, the average shipping time was 5.45 days and shipping was free.

Table 3. Amazon Business Shipping

Item	Item Description	Shipping Time (Days)			Shipping Cost
		Min	Max	Avg	Avg
1	Smead Mead Heavyweight 2-Pocket Portfolio	7	14	8.50	$1.19
2	Boise Polaris Premium Multipurpose Paper	3	14	7.60	$0.00
3	7510012360059 Document Protector	2	17	6.20	$1.98
4	Skilcraft Gregg Ruled Steno Book	6	9	7.50	$8.61
5	7530 Notebook, Steno	2	23	9.10	$4.02
6	Double Pocket Portfolio, Letter Size, Dk Blue	6	16	8.38	$4.78
7	Mechanix Wear MP3-F55-010 TAA Compliant	3	14	7.33	$3.64
8	Energizer Industrial Alkaline Batteries, AA	2	14	7.60	$0.00
9	Wilson Jones Basic Round-Ring View Binder Plus Pack, 1" Cap, White	5	14	8.90	$2.09
10	Skilcraft Dry-Erase Markers	5	23	11.50	$1.50
11	G2 Fashion Collection Gel Roller	5	26	11.60	$2.16
12	United Stationers (OP) 8105011958730 Bag Clear 10 Gallon	6	14	9.00	$6.61
13	Brother P-touch ~3/8" (0.35") Black on White Standard Laminated Tape	2	15	6.20	$0.00
14	Saalfeld Redistribution Lysol Surface Disinfectant Cleaner	6	12	8.50	$4.98
15	Accelerator-free Disposable Nitrile Glove, Powder Free, Small	2	14	7.20	$6.35

[5] Amazon Business offered two-day shipping to the Air Force if we come to an agreement.

Table 4. GSA Advantage Shipping

Item	Item Description	Shipping Time (Days)			Shipping Cost
	Description	Min	Max	Avg	Avg
1	Smead Mead Heavyweight 2-Pocket Portfolio	1	4	2.2	$0.00
2	Boise Polaris Premium Multipurpose Paper	2	5	3.2	$0.00
3	7510012360059 Document Protector	2	7	4.2	$0.00
4	Skilcraft Gregg Ruled Steno Book	1	7	2.8	$0.00
5	7530 Notebook, Steno	1	7	3.6	$0.00
6	Double Pocket Portfolio, Letter Size, Dk Blue	3	7	4.4	$0.00
7	Mechanix Wear MP3-F55-010 TAA Compliant	3	45	14.2	$0.00
8	Energizer Industrial Alkaline Batteries, AA	1	5	3	$0.00
9	Wilson Jones Basic Round-Ring View Binder Plus Pack, 1" Cap, White	1	5	2.6	$0.00
10	Skilcraft Dry-Erase Markers	2	14	5.2	$0.00
11	G2 Fashion Collection Gel Roller	1	5	2.6	$0.00
12	United Stationers (OP) 8105011958730 Bag Clear 10 Gallon	3	7	4.8	$0.00
13	Brother P-touch ~3/8" (0.35") Black on White Standard Laminated Tape	1	4	2	$0.00
14	Saalfeld Redistribution Lysol Surface Disinfectant Cleaner	2	5	3.6	$0.00
15	Accelerator-free Disposable Nitrile Glove, Powder Free, Small	3	14	6.8	$0.00

d. Small Business Representation

This section discusses small business representation for each platform. On GSA Advantage, every small business category was represented, and of the 60 items we researched, every item was offered by a SBA-registered business. On Amazon Business, most of the small business categories were represented. However, only 35%, (21 of the 60 items) were offered by a small business. Table 5 displays small business category representation of our researched items.

Table 5. Small Business Categories

Represented Small Business Categories			
		GSA	AB
s	Small Business	X	X
o	Other than Small Business	X	
w	Woman Owned Business	X	X
wo	Women Owned Small Business (WOSB)	X	X
ew	Economically Disadvantaged Women Owned Small Business (EDWOSB)	X	
v	Veteran Owned Small Business	X	X
mo	Minority Owned		X
dv	Service Disabled Veteran Owned Small Business	X	
d	SBA Certified Small Disadvantaged Business	X	X
8a	SBA Certified 8(a) Firm	X	X
h	SBA Certified HUBZone Firm	X	X

e. Vendor Ratings

This section discusses vendor ratings on Amazon Business. GSA Advantage does not provide vendor ratings. The average vendor rating was 93% (out of a possible 100%) on Amazon Business. Table 6 shows the average vendor ratings for 15 of the 60 researched items.

Table 6. Average Vendor Rating

Item	Item Description	Avg Vendor Rating
1	Smead Mead Heavyweight 2-Pocket Portfolio	88.50%
2	Boise Polaris Premium Multipurpose Paper	90.20%
3	7510012360059 Document Protector	94.20%
4	Skilcraft Gregg Ruled Steno Book	95.00%
5	7530 Notebook, Steno	93.20%
6	Double Pocket Portfolio, Letter Size, Dk Blue	87.00%
7	Mechanix Wear MP3-F55-010 TAA Compliant	99.67%
8	Energizer Industrial Alkaline Batteries, AA	97.00%
9	Wilson Jones Basic Round-Ring View Binder Plus Pack, 1" Cap, White	91.20%
10	Skilcraft Dry-Erase Markers	93.50%
11	G2 Fashion Collection Gel Roller	91.60%
12	United Stationers (OP) 8105011958730 Bag Clear 10 Gallon	88.00%
13	Brother P-touch ~3/8" (0.35") Black on White Standard Laminated Tape	97.00%
14	Saalfeld Redistribution Lysol Surface Disinfectant Cleaner	95.00%
15	Accelerator-free Disposable Nitrile Glove, Powder Free, Small	94.00%

f. Product Origin

This section discusses product origin. On GSA Advantage, all the products originated from the United States. However, on Amazon Business, some of the products originated from another country, or the origin was unidentified. Table 7 shows a sample of the product origins of five of the 60 researched items on Amazon Business.

Table 7. Product Origin

Item	Item Description	Supplier	Product Origin
1	Smead Mead Heavyweight 2-Pocket Portfolio	My Office Innovations MYO	USA
		Blue Cow Office Product	USA
		Shoplet	USA
		ReStockIt	USA
		AMAZON.COM	USA
2	Boise Polaris Premium Multipurpose Paper	Office Depot, Inc.	USA
		My Office Innovations	USA
		Shoplet	USA
		Bison Office	USA
		Clean It Supply	USA
3	7510012360059 Document Protector	Queenkim98	USA
		Bargain Bosses LLC	USA
		L Palms LLP	Unknown
		Acedepot	USA
		GTN Office Basics	USA
4	Skilcraft Gregg Ruled Steno Book	Corgi Lamps	China
5	7530 Notebook, Steno	Brian Delrosario	USA
		My Office Innovations	USA
		Rock Shop Central	USA
		Independence Fulfillment Services	USA
		Alliance (SUPPLY)	USA

g. Minimum Order Requirements

This section discusses minimum order requirements. Amazon Business did not have any stated minimum order requirements, but every item we researched on GSA Advantage had a minimum order requirement. The minimum dollar amounts are dictated by the schedules. We codified the lowest minimum order requirement, the highest minimum order requirement, and the average minimum order requirements. Table 8 displays a sample of the minimum order requirements for 15 of the 60 items.

Table 8. Minimum Order Requirements

Item	Item Description	Lowest MOR	Highest MOR	Average MOR
1	Smead Mead Heavyweight 2-Pocket Portfolio	$50.00	$100.00	$80.00
2	Boise Polaris Premium Multipurpose Paper	$100.00	$120.00	$106.00
3	7510012360059 Document Protector	$50.00	$100.00	$80.00
4	Skilcraft Gregg Ruled Steno Book	$25.00	$100.00	$55.75
5	7530 Notebook, Steno	$25.00	$28.75	$25.75
6	Double Pocket Portfolio, Letter Size, Dk Blue	$50.00	$100.00	$80.00
7	Mechanix Wear MP3-F55-010 TAA Compliant	$1.00	$25.00	$19.00
8	Energizer Industrial Alkaline Batteries, AA	$25.00	$100.00	$65.00
9	Wilson Jones Basic Round-Ring View Binder Plus Pack, 1" Cap, White	$50.00	$100.00	$80.00
10	Skilcraft Dry-Erase Markers	$25.00	$100.00	$55.00
11	G2 Fashion Collection Gel Roller	$50.00	$100.00	$85.00
12	United Stationers (OP) 8105011958730 Bag Clear 10 Gallon	$1.00	$100.00	$80.20
13	Brother P-touch ~3/8" (0.35") Black on White Standard Laminated Tape	$30.00	$100.00	$66.00
14	Saalfeld Redistribution Lysol Surface Disinfectant Cleaner	$25.00	$100.00	$70.00
15	Accelerator-free Disposable Nitrile Glove, Powder Free, Small	$1.00	$100.00	$35.20

C. GPC SURVEY

This section describes the results from our GPC Survey, which assessed current processes, behaviors, and preferences when using GSA Advantage, Amazon Business, and Amazon. Using the survey, respondents reviewed each company's website, policies, and prices, and rated their customer satisfaction. Using https://survey.nps.edu, we designed a survey aimed at assessing the respondent's satisfaction with the platform. Forty-three questions were available—six questions per platform and a series of demographic questions. We received 428 complete responses (1.74% of all Air Force GPC holders).

1. Demographic Data

Of the 428 respondents, 57% were male, 41% percent were female, and 2% preferred not to identify. The age group of the respondents ranged from 18 years old to over 61 years old. Thirty-five percent of the respondents were in the 5–60 age group, 21% were in the 41–50 age group, 19% were in the 31–40 age group, 12% were in the 18–30 age group, and 13% were in the 61+ age group. The rank/grade of the respondents ranged from airmen to field grade officer (FGO) and General Service (GS) 7 to GS 14+. Thirty-five percent of the respondents were GS 7–9, 20% were GS 12–13, 20% were GS 10–11, 11% were non-commissioned officers, 6% were senior non-commissioned officers, 3% were airmen, 3% were company grade officers, 1% were field grade officers, and 1% were GS 14+. The respondents' experience with the GPC program ranged from less than one year to over five years of experience. Forty-six percent of the respondents had over five years of experience, 20% had one to two years of experience, 18% had three to five years of experience, and 16% had less than one year of experience. Table 9 shows the demographic data.

Table 9. Survey Demographic Data

Gender		
	Number	**Percentage**
Female	176	41%
Male	243	57%
Prefer not to identify	9	2%
Age Group		
	Number	**Percentage**
18-30	53	12%
31-40	84	19%
41-50	91	21%
51-60	147	35%
61+	53	13%
Rank/Grade		
	Number	**Percentage**
AMN	12	3%
NCO	49	11%
SNCO	26	6%
CGO	12	3%
FGO	4	1%
GS 7–9	152	35%
GS 10–11	85	20%
GS 12–13	86	20%
GS 14+	2	1%
GPC Program Experience		
	Number	**Percentage**
Less than 1 Year	68	16%
1-2 Years	84	20%
3-5 Years	77	18%
Over 5 Years	199	46%

2. Survey Overview

a. GSA Advantage!

Ninety-one percent of respondents had used the GPC to purchase from GSA Advantage.[6] Of that 91% percent, 42% have purchased from GSA Advantage over ten times, 31% purchased 2–5 times, 21% purchased 6–10 times, and 6% purchased once.

[6] Only those 91% who answered "yes" for using the GPC on GSA Advantage went on to answer the follow-up questions.

Compared to other online ordering platforms 46% of respondents said that GSA Advantage's website was more difficult to use, 44% said it was similar to use, and 10% said it was easier to use.

Forty-eight percent of respondents said that GSA Advantage's Search Engine Results Page was less comprehensive than other online ordering websites, while 44% said it was similar, and 8% said it was more comprehensive. A majority (54%) of respondents stated that GSA Advantage's shipping policies were similar to other online ordering websites. Twenty-six percent stated that GSA Advantage's return policies were similar to other online ordering websites, however, a full 58% had never returned anything.

Fifty-one percent of respondents stated that GSA Advantage was more expensive than other online ordering websites, 39% said prices were similar, and 10% said GSA Advantage was less expensive. Forty-six percent stated that finding the lowest price on GSA Advantage was similar to other online ordering websites, 41% stated that finding the lowest price was more difficult, and 13% said that it was easier. A majority (62%) of respondents never sought additional discounts or rebates when purchasing from GSA Advantage. However, when respondents asked for a discount, 72% stated they "sometimes" receive it, 16% said they "never" receive it, and 12% said they received it "most of the time."

Finally, when asked to rate their level of customer satisfaction with GSA Advantage, the participants' ratings varied widely between very dissatisfied and somewhat satisfied. Twenty-eight percent of the respondents were somewhat satisfied, 25% were neither satisfied nor dissatisfied, 21% were somewhat dissatisfied, 13% were very satisfied, and 13% were very dissatisfied. Table 10 displays the results from the GSA Advantage section of the survey.

Table 10. GSA Advantage Survey Results

Annually, how often do you use the GPC to purchase from GSA Advantage?		
	Number	**Percentage**
Once	25	6%
2-5 times	121	31%
6-10 times	79	21%
Over 10 times	162	42%
Compared to other online ordering websites, GSA Advantage's website is:		
	Number	**Percentage**
More difficult to use	177	46%
Similar to use	170	44%
Easier to use	40	10%
Compared to other online ordering websites, GSA Advantage's Search Engine Results Page is:		
	Number	**Percentage**
Less comprehensive	184	48%
Similar	170	44%
More comprehensive	33	8%
Compared to other online ordering websites, GSA Advantage's shipping policies are:		
	Number	**Percentage**
Worse	125	32%
Similar	208	54%
Better	54	14%
Compared to other online ordering websites, GSA Advantage's return policies are:		
	Number	**Percentage**
Worse	56	14%
Similar	100	26%
Better	9	2%
Not sure, never returned anything	222	58%
Compared to other online ordering websites, GSA Advantage's prices are:		
	Number	**Percentage**
More expensive	198	51%
Similar	149	39%
Less expensive	40	10%
Compared to other online ordering websites, finding the lowest price on GSA Advantage's Search Engine Results Page website is:		
	Number	**Percentage**
More difficult	157	41%
Similar	177	46%
Easier	53	13%

When purchasing from GSA Advantage, I seek additional discounts/rebates from vendors:		
	Number	**Percentage**
Never	238	62%
Sometimes	104	27%
Often	26	6%
Always	19	5%
When I ask, I receive the discounts:		
	Number	**Percentage**
Never	24	16%
Sometimes	107	72%
Most of the time	18	12%
Rate your level of customer satisfaction with GSA Advantage:		
	Number	**Percentage**
Very dissatisfied	50	13%
Somewhat dissatisfied	83	21%
Neither satisfied nor dissatisfied	95	25%
Somewhat satisfied	107	28%
Very satisfied	52	13%

b. Amazon Business

Eighteen percent of respondents had used the GPC to purchase from Amazon Business.[7] Of that 18%, 45% had purchased from Amazon Business 2–5 times, 26% purchased over 10 times, 20% purchased 6–10 times, and 9% purchased once. Compared to other online ordering platforms, 68% of respondents said that Amazon Business' website was easier to use, 30% said it was similar to use, and 2% said it was more difficult.

Fifty-eight percent of respondents said that Amazon Business' Search Engine Results Page was more comprehensive than other online ordering websites, 37% said it was similar, and 5% said it was less comprehensive. A majority (57%) of respondents said Amazon Businesses' shipping policies were better, while 41% said they were similar and 2% said they were worse. Thirty-four percent stated that Amazon Business' return

[7] Only those 18% who answered "yes" for using the GPC on Amazon Business went on to answer the follow-on questions.

policies were better than other online ordering websites, 21% said they were similar, and 5% said they were worse; however, a full 40% had never returned anything.

Fifty-eight percent of respondents stated that Amazon Business was less expensive, while 42% said prices were similar. Zero respondents stated that Amazon Business' prices were higher than other online websites. A majority (57%) of respondents stated that finding the lowest price on Amazon Business was easier than on other online ordering websites, while 42% stated that it was similar to other online ordering websites, and 1% said it was more difficult. Seventy-six of respondents never sought additional discounts or rebates when purchasing from Amazon Business, 14% said they sometimes ask for an additional discount, 6% said they often ask for a discount, and 4% always ask for a discount. However, when respondents asked for a discount, 57% stated they "sometimes" receive it, 27% said they receive it "most of the time," and 16% said they "never" receive it.

Finally, when asked to rate their level of customer satisfaction with Amazon Business, 61% of respondents were very satisfied, 20% said somewhat satisfied, 15% were neither satisfied nor dissatisfied, 2% were somewhat dissatisfied, and 2% were very dissatisfied. A summary of the results for Amazon Business is provided in Table 11.

Table 11. Amazon Business Survey Results

Annually, how often do you use the GPC to purchase from Amazon Business?		
	Number	**Percentage**
Once	7	9%
2-5 times	34	45%
6-10 times	15	20%
Over 10 times	20	26%
Compared to other online ordering websites, Amazon Business' website is:		
	Number	**Percentage**
More difficult to use	2	2%
Similar to use	23	30%
Easier to use	51	68%
Compared to other online ordering websites, Amazon Business' shipping policies are:		
	Number	**Percentage**
Worse	2	2%
Similar	31	41%
Better	43	57%

Compared to other online ordering websites, Amazon Business' Search Engine Results Page is:		
	Number	**Percentage**
Less comprehensive	4	5%
Similar	28	37%
More comprehensive	44	58%
Compared to other online ordering websites, Amazon Business' return policies are:		
	Number	**Percentage**
Worse	4	5%
Similar	16	21%
Better	26	34%
Not sure, never returned anything	30	40%
Compared to other online ordering websites, Amazon Business' prices are:		
	Number	**Percentage**
More expensive	0	0%
Similar	32	42%
Less expensive	44	58%
Compared to other online ordering websites, finding the lowest price on Amazon Business' Search Engine Results Page is:		
	Number	**Percentage**
More difficult	1	1%
Similar	32	42%
Easier	43	57%
When purchasing from Amazon Business, I seek additional discounts/rebates from vendors:		
	Number	**Percentage**
Never	57	76%
Sometimes	11	14%
Often	5	6%
Always	3	4%
When I ask, I receive the discounts:		
	Number	**Percentage**
Never	3	15%
Sometimes	11	61%
Most of the time	5	28%
Rate your level of customer satisfaction:		
	Number	**Percentage**
Very dissatisfied	2	2%
Somewhat dissatisfied	2	2%
Neither satisfied nor dissatisfied	11	15%
Somewhat satisfied	15	20%
Very satisfied	46	61%

c. Amazon.com

Ninety-two percent of respondents had purchased from Amazon.com in their personal life.[8] Of that 92%, 58% had purchased from Amazon over 10 times, 22% purchased 2–5 times, 16% purchased 6–10 times, and 4% purchased once. Compared to other online ordering platforms, 70% of respondents said that Amazon.com's website was easier to use, 29% said it was similar to use, and 1% said it was more difficult to use.

Sixty percent of respondents said that Amazon.com's Search Engine Results Page was more comprehensive than other online ordering websites, 36% said it was similar, and 4% said it was less comprehensive. A majority (64%) stated that Amazon.com's shipping policies were better than other online ordering websites, while 35% said they were similar, and 1% said they were worse. Fifty-one percent stated that Amazon.com's return policies were better than other online ordering websites, while 23% said they were similar, and 2% said they were worse; however, 24% had never returned anything.

Sixty-four percent of respondents stated that prices on Amazon.com were lower than other online ordering websites, while 35% said prices were similar and 1% said they were more expensive. Sixty percent of respondents stated that finding the lowest price on Amazon.com was easier than other online ordering websites, 37% stated that it was similar to other online ordering websites, and 3% said it was more difficult. Sixty-seven percent of respondents never sought additional discounts or rebates when purchasing from Amazon.com, 22% sometimes sought additional discounts, 6% always sought additional discounts, and 5% often sought additional discounts. However, when respondents asked for a discount, 70% stated they "sometimes" receive it, 23% receive the discount "most of the time," and 7% "never" receive it.

Finally, when asked to rate their level of customer satisfaction with Amazon.com, a majority (66%) of respondents were very satisfied. Twenty-three percent were somewhat satisfied, 8% were neither satisfied nor dissatisfied, and 2% were very dissatisfied. Table 12 displays the results from the Amazon.com section of the survey.

[8] Only those 92% who answered "yes" to purchasing from Amazon.com went on to answer the follow-on questions.

Table 12. Amazon.com Survey Results

Annually, how often do you purchase from Amazon?		
	Number	**Percentage**
Once	17	4%
2-5 times	86	22%
6-10 times	63	16%
Over 10 times	228	58%
Compared to other online ordering websites, Amazon's website is:		
	Number	**Percentage**
More difficult to use	4	1%
Similar to use	114	29%
Easier to use	276	70%
Compared to other online ordering websites, Amazon's Search Engine Results Page is:		
	Number	**Percentage**
Less comprehensive	17	4%
Similar	142	36%
More comprehensive	235	60%
Compared to other online ordering websites, Amazon's shipping polices are:		
	Number	**Percentage**
Worse	6	1%
Similar	136	35%
Better	252	64%
Compared to other online ordering websites, Amazon's return policies are:		
	Number	**Percentage**
Worse	7	2%
Similar	93	23%
Better	199	51%
Not sure, never returned anything	95	24%
Compared to other online ordering websites, Amazon's prices are:		
	Number	**Percentage**
More expensive	3	1%
Similar	141	35%
Less expensive	250	64%
Compared to other online ordering websites, finding the lowest price on the Search Engine Results Page is:		
	Number	**Percentage**
More difficult	12	3%
Similar	148	37%
Easier	234	60%
When purchasing from Amazon, I seek additional discounts/rebates from vendors:		
	Number	**Percentage**

Never	264	67%
Sometimes	87	22%
Often	18	5%
Always	25	6%
When I ask, I receive the discounts:		
	Number	**Percentage**
Never	9	7%
Sometimes	91	70%
Most of the time	30	23%
Rate your level of customer satisfaction:		
	Number	**Percentage**
Very dissatisfied	8	2%
Somewhat dissatisfied	2	1%
Neither satisfied nor dissatisfied	32	8%
Somewhat satisfied	93	23%
Very satisfied	259	66%

d. Additional Survey Questions

We asked respondents to rate whether vendor ratings are important to them and to their purchasing decision. Eighty-four percent of respondents said vendor ratings are important, and within that group, 84% said they made purchasing decisions based on vendor ratings. Product reviews were also very important to 92% of GPC users. Of that 92%, 92% stated they made purchasing decisions based on product reviews. Finally, 78% of users would choose Amazon Business or Amazon.com as their preferred GPC online ordering website over GSA Advantage. A summary of these results is displayed in Table 13.

Table 13. Additional Survey Results

Are vendor ratings important to you?		
	Number	**Percentage**
Yes	359	84%
No	69	16%
No answer	0	0%
Do you make purchasing decisions based on vendor ratings?		
	Number	**Percentage**
Yes	302	84%

No	57	16%
No answer	0	0%
Are product reviews important to you?		
	Number	**Percentage**
Yes	394	92%
No	34	8%
No answer	0	0%
Do you make purchasing decisions based on product reviews?		
	Number	**Percentage**
Yes	361	91%
No	33	8%
No answer	0	0%
If you could choose, which online ordering website (via GPC) would you use?		
	Number	**Percentage**
GSA Advantage!	94	22%
Amazon Business / Amazon.com	334	78%

3. Cardholder Written Feedback

During the survey period, we received additional feedback from survey respondents who provided the research team with additional, unsolicited feedback. One user stated,

> The biggest problem with GSA purchasing (no matter which portal is used) is that there is a minimum purchase amount required. It does not make sense to have to buy large quantities to meet the minimum purchase requirement when you may only need one or two and delivery times from GSA vendors varies from one day after receipt of order (ARO) up to 30 days ARO. Cardholders will pay more for the same product to get timely delivery.

Another GPC user sent us an emailing stating,

> Making purchases is easier on Amazon than GSA. I could see more easily what I was buying on Amazon, where in the GSA system we could spend 30 minutes just trying to figure out if it was the right item. If we could find the vendor that did not require a minimum purchase amount (some items that were $3 we could not order the small quantity, we needed because the vendor had a minimum purchase of $100 or more).

Lastly, another user stated,

> I might find an item for $10.00 but the minimum purchase is $100.00, and I only need one item. That is the biggest problem with GSA Advantage. The other big issue is the shipping. The GSA advantage website will state three-day shipping, but the three days starts after the order is filled. This might take up to a week or longer before it is shipped and then it is another three days or more before I receive the item.

4. Linear Modeling Using the Survey Results

Using our survey results, we examined the effects of influential factors on cardholder's online platform preference within a generalized linear model using a logit link function, a logistic regression. Online platform preference was a binary response measured by self-report on a cardholder's preference to order from Amazon (Amazon.com or Amazon Business) instead of GSA Advantage, given the opportunity. Thus, we subset our sample to cardholders who are current users of GSA Advantage—those who reported placing at least one purchase annually through GSA Advantage—and who have experience placing GPC purchases through either Amazon.com or Amazon Business. This resulted in a sample of 360 respondents. We are unable to conclude, based on the results of chi-square testing of distributions from cardholder demographics that respondents from this subset differ significantly from those in the larger random sample.

a. Model Regressors

Regressors in the model accounted for cardholders' perceptions of GSA Advantage's price and quality competitiveness. Price competitiveness was based on a comparative price assessment against other online marketplaces. Quality competitiveness captured the following dimensions of site quality: overall ease of site use, ease of locating lowest item pricing, comprehensiveness of site search and adequacy of logistics (shipping and returns) policies. For all regressors, competitiveness was measured as a comparative assessment of GSA Advantage against other online marketplaces. Given Amazon's prominence as an online marketplace and likelihood for cardholders to anchor their comparisons against an Amazon marketplace, we reduce our exposure to multi-collinearity by including in our model only competitiveness assessments of GSA Advantage. All regressors were measured using single-item, categorical scales.

b. Model Covariates

To control for potential confounding effects, we also included several covariates in the model. These factors included respondent gender, age, years of experience as a cardholder, frequency of GSA Advantage use, propensity to request price discounts, and overall customer satisfaction with GSA Advantage. Customer satisfaction was assessed on a five-point Likert-type scale and was treated in the model as a continuous variable. Similarly, age intervals were treated as continuous. All other covariates were included in the model as categorical factors.

Table 14. Single-Term Deletions for the Full and Parsimonious Model

		Model 1		Model 2	
Variable	*df*	Dev.	LR	Dev.	LR
Null		207.63		223.58	
Cardholder Gender	2	208.42	0.78		
Cardholder Age	1	211.40	3.77†	229.70	6.13*
Cardholder GPC Experience	3	209.71	2.08		
Frequency of GSA Advantage Use	3	211.30	3.67		
Customer Sat. w/ GSA Advantage	1	214.63	7.00**	234.18	10.60**
Website Ease of Use	2	217.64	10.01**	241.15	17.58**
Search Comprehensiveness	2	210.47	2.84		
Shipping Policy Adequacy	2	210.11	2.48		
Returns Policy Adequacy	3	214.75	7.12†	230.41	6.83†
Pricing Competitiveness	2	215.74	8.11*	234.76	11.19**
Ease of Locating Lowest Price	2	210.31	2.68		
Propensity to Seek Discounts	3	208.87	2.24		

Note: $^{**}p < .01$; $^{*}p < .05$; $^{\dagger}p < .10$; AIC = 261.63 (Model 1), 243.58 (Model 2).

(1) Model Estimation

Model estimation was performed in R[9] using maximum likelihood estimation. The model (Model 1) offered improved fit to the data over a null model ($X^2\Delta(26)$ =

[9] R Core Team (2017). R: A language and environment for statistical computing. R Foundation for Statistical Computing, Vienna, Austria. URL https://www.R-project.org/.

132.38, $p < .01$) and correctly predicted the preference for 88.33% of cardholders (32 of 65 who prefer GSA Advantage and 286 of 295 who prefer Amazon). In an effort to produce a parsimonious model of cardholder preference, we utilized iterative backward selection to identify potential factors for exclusion (Table 14). Factor contribution to model fit was assessed by chi-square change and Akaike Information Criterion (AIC). Based on these assessments, gender, GPC program experience, the frequency of GSA Advantage use, propensity to seek discounts, search comprehensiveness, shipping policy, and ease of locating lowest price were excluded from the model. The removal of these factors did not result in a significant reduction to model fit ($X^2\Delta(17) = 15.95$, $p = .53$). The parsimonious model (Model 2) correctly predicted preference for 85% of cardholders (24 of 65 who prefer GSA Advantage and 282 of 295 who prefer Amazon).

c. Regression Results

Regression results are listed in Table 15. Beta coefficients in the table represent the estimated (conditional) change in log-odds of a cardholder preferring Amazon to GSA Advantage when a regressor is changed by one unit. Exponentiated coefficients are presented within the text.

Table 15. Logistic Regression Results

Variable	OR[§]	β	SE	Pr(> \|z\|)
(Intercept)	4.90	1.59	.43	<.01**
Cardholder Age[‡]	.97	−.03	.01	.02*
Customer Sat. w/ GSA Advantage[‡]	.53	−.64	.20	<.01**
Website Ease of Use				
Easier	.22	−1.50	.46	<.01**
Similar	———	*Referent Group*	———	
More Difficult	2.77	1.02	.53	.05[†]
Returns Policy Adequacy				
Better	.08	−2.57	1.23	.04*
Not Sure	.83	−.19	.39	.64
Similar	———	*Referent Group*	———	
Worse	1.50	.40	.69	.56
Pricing Competitiveness				
Less Expensive	.61	−.49	.50	.33
Similar	———	*Referent Group*	———	
More Expensive	2.89	1.06	.40	<.01**

Note: $^{**}p < .01$; $^{*}p < .05$; $^{\dagger}p < .10$; [‡]mean-centered; [§]OR (Odds Ratio) $= e^{\beta}$.

(1) Cardholder Age and Customer Satisfaction

A cardholder's odds of preferring Amazon to GSA Advantage decrease by 3.41% for each additional year group ($\beta = -.03$, se = .01, p = .02). Similarly, a cardholder's odds of preferring Amazon decrease by 47.32% with each one-unit increase in their self-reported level of satisfaction with GSA Advantage ($\beta = -.64$, se = .20, $p < .01$).

(2) Website Ease of Use

For the categorical regressor, website Ease of Use, we selected "Similar" as our referent category. When cardholders perceive GSA Advantage to be easier to use (comparatively to other online ordering sites), their odds of preferring Amazon to GSA Advantage decrease by 77.67% ($\beta = -1.50$, se = .46, $p < .01$). Alternatively, when cardholders perceive GSA Advantage to be more difficult to use, their odds of preferring Amazon increase by 177.39%. However, this difference is borderline in statistical significance ($\beta = 1.02$, se = .53, p = .05).

(3) Return Policy Adequacy

For Return Policy Adequacy, we again selected "Similar" as our referent category. Cardholder odds of preferring Amazon over GSA Advantage only differ (from the referent category) for those cardholders who perceive GSA Advantage's return policies to be better in comparison to policies of other online order sites. For these cardholders, odds of preferring Amazon decrease by 92.35% ($\beta = -2.57$, se=1.23, $p = .04$).

(4) Price Competitiveness

Lastly, for Price Competitiveness, we again used "Similar" as our referent category. Our data does not suggest that cardholders who view GSA's pricing as being less expensive (in comparison to other online ordering sites) are more or less likely to prefer Amazon to GSA Advantage ($\beta = -0.49$, se = .50, $p = .33$) than cardholders who feel that GSA Advantage's pricing is similar to other online ordering sites. However, when cardholders view GSA pricing as being more expensive their odds of preferring Amazon increase by 188.64% ($\beta = 1.06$, se = .40, $p < .01$).

D. FACT-FINDING INTERVIEWS

Our goal in conducting interviews was to understand current business arrangements as well as future endeavors for GSA and Amazon Business. GSA Advantage participated in the interview and also provided a written response. Amazon Business did not participate in the interview, but engaged in email correspondence for several months with the research team.

1. GSA Advantage

In August 2017, Captain Gomez led the GSA Advantage interview, while Captain Canter assisted. We interviewed a GSA leader who had worked for the organization for 15 years. The interviewee is a self-described "technologist by heart." He is now a division director for 27 systems and 70 brick and mortar stores across the U.S. The interviewee was very candid and provided insight into GSA Advantage. We interviewed

the GSA representative over two, one-hour periods via teleconference. After the interviews, the interviewee emailed written responses to previously supplied interview questions.

a. Current State and Goals

The interview began with a discussion on the current state and goals of GSA Advantage. The interviewee stated that the primary goal for GSA Advantage is to "provide a government marketplace that is compliant with Federal, Military, and State and Local Government rules and regulations to deliver quality products and services to Government buyers and to promote fair and equal competition between suppliers." The interviewee explained that GSA was under new leadership. The interviewee further explained that the new leadership is "setting the new bar or resetting the new baseline as to where they want to take their business and how commodities and services will play a role in that."

GSA is following the current legislation, including the Thornberry Act, and planning. The interviewee stated, "GSA has been performing their own study and analysis of (the) government marketplace." GSA has been going through system consolidation and streamlining their processes. The interviewee stated that he had put together several modernization tracks for GSA Advantage. The modernization effort includes tracks such as "sign on, registration, user management, and the shopping cart experience and all the capabilities around that."

The interviewee also explained that GSA Advantage was just one system of many under the FAS organization. He stated, "GSA provides a vast array of offerings and many diverse methods and technologies for acquiring these offerings, passing the savings, knowledge, and compliance onto all of Government." The interviewee spoke highly of GSA eBuy, which is another system of capabilities under the GSA Advantage umbrella. eBuy draws in about $11 billion in awards each year. It allows users to build Request for Quote, Request for Proposals, and connect with all the vendors who currently have contracts with GSA.

b. Shadow of E-Commerce

Currently, GSA is facing challenges in the shadow of e-commerce. The interviewee stated, "We are not private industry. We will never be Amazon." The interviewee emphasized that GSA was a government organization. He said, "GSA's purpose is to provide as much current information on catalogs and contracts to assist consumers and suppliers to do market research, not just for price comparison, but also to identify and support socioeconomic programs, environmentally friendly products, and mandatory or preferred sources of supply for the government."

The interviewee stated, "The biggest issues and challenges with meeting and exceeding customer expectations would be policy and compliance within government and existing terms and conditions in the contracts." The rules and regulations that GSA is bound to creates an atmosphere where GSA is unable to provide the level of customer service available on commercial platforms. He said, "For example, Advantage cannot provide vendor ratings, and is very limited as to what products can be promoted on the site. The system follows the terms and conditions stated in the contract, which limits capabilities for upselling, and influencing a purchase**."** GSA believes vendor ratings promote one vendor over the other, which is not allowed due to government policy and rules and regulations. GSA must provide equal opportunity for each vendor to compete on a level playing field. The interviewee said that he would love for the company to provide vendor ratings in the future and add this feature to GSA Advantage.

c. Small Business Goals

Like most government organizations, GSA has aggressive small business goals and assists ordering activities in achieving or exceeding their goals. The interviewee stated that within GSA, "Approximately 80% of all GSA contractors are small businesses." The interviewee explained that all socioeconomic items and services are identified on the site in a way that is clearly visible to buyers, and all transactions are captured. GSA also markets to small businesses. The interviewee said, "GSA has a marketing organization with regional coverage. The teams visit customers and vendors to help train and promote special programs**."**

d. Minimum Order Requirements

While the interviewee explained that GSA Advantage was geared "towards the smaller commodity buys," GPC holders have voiced concerns regarding minimum order requirements. The interviewee agreed the search results within GSA Advantage are skewed because of the minimum order requirements—minimum order requirements are not taken into account when displaying what appears to be the lowest priced item. He agreed that disparity makes it difficult to accurately compare prices.

The interviewee stated that GSA Advantage is currently developing a prototype to make the user interface filter search results and incorporate minimum order requirements into the displayed filtered search results. The interviewee also emphasized that all the minimum order requirements and price discounts are per the terms and conditions of the contract previously established under the MAS program. He said, "Advantage shows what a vendor provides based on the terms and conditions of their contract." The interviewee explained that to achieve a lower price per unit, the vendors claim that they must have a minimum dollar amount to break even. However, the interviewee stated that you could find the items at a lower cost per unit on websites like Amazon. The interviewee stated that in the future, vendors should provide the government with wholesale prices, which would provide government users lower prices.

e. Training and Marketing

GSA does not provide official training for Advantage users. The interviewee explained that GSA's original goal was to make it as "intuitive as possible." Most of the training is provided as needed, which is often on an individual basis through the GSA Help Desk. GSA does provide vendors training on how to update and manage their catalogs. If a customer has a question, they can call the help desk. The interviewee personally handles 50 to 100 questions per week.

f. Feedback and Continuous Improvement Processes

GSA provided insight into their customer and vendor feedback process. Customer feedback flows into GSA from every avenue. The interviewee stated,

> Feedback is collected within the help desk systems, as well as other inputs. Feedback is reviewed, classified, and prioritized. Regardless of the type of feedback that GSA has collected, no major investments have been made to Advantage in the past several years, only minor enhancements, based on criticality and impact.

Building on the topic of customer feedback, the discussion led into GSA's continuous improvement process. The interviewee stated, "GSA Advantage has a stakeholder group, as well as a change control board, and provides changes and enhancements each month using GSA-specific software. Enhancements are also derived from customer surveys, and other business process improvements." The interviewee explained the review boards must approve any changes to existing GSA platforms. The interviewee stated, "GSA Advantage needs a dedicated group at the executive level with a marketing outreach and customer perspective, with the mission to provide the best marketplace that they can."

While the interviewee praised GSA's efforts, every organization has room for improvement. One noted area for improvement on GSA Advantage involves universal product codes (UPCs). When vendors participate in GSA Advantage, they are not required to provide a UPC. The interviewee informed us that vendors could utilize any part number they desire. GSA does not have a designated catalog team to validate or standardize part numbers. The interviewee stated, "We need greater resources for data management."

During the interview, we also discussed how often GSA updated the FSS within GSA Advantage. The interviewee stated, "GSA Advantage updates hundreds of thousands of products and prices per day." The interviewee did not know if GSA Advantage planned to improve the frequency or process for updates. We did not discuss the process for the FSS updates, which could be an area for future discussion.

g. Level Three Data / Transactional Level Data

Level three data and transactional level data,[10] which require the capture of specific line item data (e.g., merchant name, address, invoice number, and other line item details), is necessary for agencies to accurately understand and assess their GPC transactions. The interviewee stated that GSA captures everything and produces an analytics report. When asked if GSA Advantage required participating vendors to provide level three data, the interviewee stated, "Yes, all of this data comes in during contract or catalog submission. It is then matched when items are purchased on the site, so all level three transactional data is captured."

While GSA provides level three data, vendors are not required to provide transactional level data. Vendors claim it is too expensive. However, we learned that the catalog data is not married to vendor data, so it does not provide the complete picture of each transaction.

h. Future of GSA

The interviewee agreed that GSA Advantage is losing business to commercial online platforms like Amazon.com and Amazon Business. However, the interviewee agreed the competition is good for the government. He stated, "As long as there is competition, and the government is getting a good price or value, it is right for the taxpayer." However, to maintain market share within the industry, the interviewee stated GSA would "continue to provide great tools to buyers, assist customers to help them meet their mission, and ensure great customer service and value."

2. Amazon Business

For the Amazon Business interview, Captain Canter was scheduled to lead the interview, while Lieutenant Colonel Landale and Captain Gomez would assist. The team emailed the interview questions in early August 2017 and followed-up with an unofficial teleconference with Amazon Business representatives to explain the study and answer

[10] In the context of our research project, level three data and transactional level data mean the same thing and are used interchangeably.

questions. During the teleconference, the Amazon Business representatives stated that they typically do not participate in research projects or interviews. The Amazon Business representatives needed to seek legal assistance before agreeing to an interview. In early October, the researchers received Amazon's decision,

> In speaking with our legal team, we have been directed to not proceed with involvement in the research. In particular, Amazon Business legal advised against signing any of the documents, especially the Consent to Interview. I am sorry that it has taken this long to make this determination; we considered this at length, and our decision to not participate was not made lightly.

No further correspondence about this research project occurred with Amazon Business.

E. SUMMARY

This chapter described the results of our research, which assessed the quantitative and qualitative strengths and weaknesses of GSA Advantage and Amazon Business, as well as a summary of GPC holders' preferences. In the next chapter, we answer our research questions and provide a conclusion, including recommendations to senior Air Force acquisition leaders.

V. DISCUSSION AND CONCLUSION

A. INTRODUCTION

In this chapter, we summarize the findings of our research. Overall, we found that most GPC users preferred Amazon.com and Amazon Business. However, we found some issues that Amazon Business should address before the Air Force agrees to enterprise-wide adoption. We also found that GSA Advantage offered better pricing than Amazon Business for the type of items that we researched. However, each item on GSA Advantage had a minimum order requirement, which could force GPC users to purchase more than they actually need. In the discussion below, we answer the research questions and provide recommendations for senior leadership. Finally, we end our report with recommendations for future research.

1. Research Questions and Answers

a. Does the GPC Guidebook or FAR limit our ability to use Amazon Business?

If the mandatory sources listed in FAR 8.002 and 8.003 do not meet the need of a cardholder's requirement, users are encouraged to consider the use of non-mandatory sources of FAR 8.004(a)(1) before going to commercial sources. However, there is no law or statute saying the government cannot go to Amazon Business as the first non-mandatory source. In sections A.4.5 and A.1.2.2, the GPC Guidebook specifically calls out GSA Advantage as an available, non-mandatory, but prioritized government source. While the GPC Guidebook cites GSA Advantage as an available source, the Guidebook does not cite any available commercial sources. To give users additional buying options, we recommend DPAP add Amazon Business as an example of an available, non-mandatory commercial source in section A.1.2.2. However, more research is needed to understand if adding Amazon Business to the Guidebook violates the Competition in Contracting Act, unfairly favoring their platform over other commercially-available platforms (e.g., Walmart.com).

b. Do prices on GSA Advantage and Amazon Business compare favorably to other online ordering websites?

Based on our survey, most participants believed Amazon was less expensive than industry and GSA Advantage was more expensive. A majority (64%) of participants believe prices on Amazon were less expensive than industry, and 51% of participants stated that GSA Advantage was more expensive. However, from our comparative analysis, we found most items were less expensive on GSA Advantage. In particular, we found the prices of items manufactured by Skilcraft or AbilityOne were less expensive on GSA Advantage's website.

However, every lowest priced vendor on GSA Advantage listed a minimum purchase requirement. The minimum purchase requirement may require users to purchase more than what is actually needed to satisfy their requirement. Amazon Business did not require a minimum purchase for any items. Unsolicited feedback from survey respondents showed that minimum order requirements are very unpopular amongst GPC holders. We recommend that when GSA Advantage updates their schedules, they negotiate to remove minimum order requirements.

c. Do users prefer GSA Advantage, Amazon, or Amazon Business' website?

Based on our GPC survey results, the online ordering platforms ranked in the following order: Amazon.com, Amazon Business, and GSA Advantage. A majority (70%) of participants said that Amazon.com was easier to use compared to other online ordering platforms, and 68% of participants said that Amazon Business' website was easier to use compared to other online ordering platforms.

From our results, we infer that users preferred Amazon's platforms for several reasons. First, the platform is used widely in the commercial sector and many people use Amazon in their personal lives. The platform provides a vast selection of supplies, product ratings, and vendor ratings while also offering two-day delivery for most items.

We also found that older respondents were less likely to prefer Amazon.com or Amazon Business, compared to younger respondents. This is likely because older

respondents are more familiar with GSA Advantage. They have used the platform for many years. We believe older respondents are less likely to use Amazon.com in their personal lives, compared to younger respondents. Our results also show that if users were satisfied with GSA Advantage, their odds of preferring Amazon decrease by 47%. This shows that once users become comfortable with a platform, they have a hard time accepting or preferring a new platform. However, our results also show if users are dissatisfied with GSA Advantage, their odds of preferring Amazon increased by 177%. This means that it is much easier to change behavior if a user is dissatisfied with their current platform.

Because most cardholders prefer Amazon's platforms, GSA Advantage and Amazon could partner by putting federally-negotiated schedules on Amazon Business' platform. Government purchasers will benefit from Amazon's platform, while maintaining the continuity, security, and quantity pricing available from GSA Advantage. Minimum order requirements will still have to be addressed. However, more research is needed to explore the viability of placing government schedules on a commercial platform.

d. Do GSA Advantage, Amazon, and Amazon Business' Search Engine Result Page compare favorably to other online ordering websites?

Based on the GPC survey data, the Search Engine Results Page of all platforms ranked in the following order of preference: Amazon.com, Amazon Business, and GSA Advantage. GPC users preferred Amazon's Search Engine Results Page over other ordering platforms. Furthermore, 48% of participants thought GSA Advantage's Search Engine Results Page was less comprehensive than other online ordering websites.

We believe users prefer Amazon's platforms for several reasons. Amazon's Search Engine Results Page only has one listing per item. If there are several sellers of the same product, the product is not reproduced multiple times on the search page. Once the user clicks on the product, it is easy to see different prices from different vendors, and even new and used product options. Furthermore, Amazon's platform design is consistent, uniform, and easy to use. Users feel comfortable with the buying experience

and feel as though they are getting the best deal. If the Thornberry Act passes as written, users will be allowed to use search engine results to determine price fair and reasonable. Amazon's design makes it easy for users to find the lowest priced item by the clean and consistent manner in which results are displayed. Again, because most cardholders prefer Amazon's Search Engine Results Page, GSA Advantage would benefit by placing their schedules on Amazon Business. The partnership is a true win-win.

From our comparative analysis, we found GSA's Search Engine Results Page was well-designed. However, it was not rated as highly as Amazon's and was not preferred by younger GPC holders. From our interview with GSA Advantage, the company is committed to its modernization efforts and making improvements for their customers. The company stated that their search engine has been at the heart of the system. GSA believes their platform is easy to use and the search capabilities are extremely comprehensive.

e. Do GSA Advantage, Amazon, and Amazon Business' shipping policies compare favorably to other online ordering websites?

Based on the GPC survey data, the shipping policies ranked in the following order of preference: Amazon.com, Amazon Business, and GSA Advantage. A majority (64%) of participants said that Amazon's shipping policies were better than other online ordering websites. We believe this is because Amazon offers Amazon Prime, which includes free, two-day shipping. If a participant regularly uses Amazon.com, then they are probably members of Amazon Prime. With GSA Advantage, shipping varied, on average, from two to 20 days. Users like consistency and dependability, and may have grown accustomed to receiving free,[11] and most importantly, fast shipping. On GSA Advantage, shipping days do not begin until the orders are processed, which can sometimes take a few business days. Whereas on Amazon, order processing time is incorporated into stated shipping times.

[11] Organizations with 100+ users can be Prime for $10,099. GPC holders would benefit as the Air Force would pay this subscription fee.

To maintain pace with industry, GSA Advantage should standardize schedules to include free, two-day shipping like Amazon. We recommend GSA Advantage negotiate two-day shipping policies with vendors and require order processing to begin immediately after an order is placed.

f. Do GSA Advantage, Amazon, and Amazon Business' return policies compare favorably to other online ordering websites?

Based on the GPC survey respondent data, the return policies ranked in the following order of preference: Amazon.com, Amazon Business, and GSA Advantage. Most GPC users have experience returning items purchased on Amazon.com and believed the platform was better than other online ordering platforms. Again, Amazon is a large player in the e-commerce industry. Users trust Amazon, and by association, users trust Amazon Business. Amazon designed Amazon Business to look and operate just like Amazon, and users feel comfortable with the process. All items purchased from Amazon.com fall under one return policy. The policy is easy to find on the website, and clearly explains the process, including exceptions.

We believe GSA Advantage's return policies did not rank as high as Amazon's platforms because the return process is more fragmented. The return policy for GSA, or the individual schedule's policy, is not as easy to find or understand. Further, we believe users' return more items in their personal life through Amazon than they do at work with GSA Advantage and are more familiar with procedures. We recommend GSA Advantage standardize return policies on all schedules. GSA's return policies should also closely reflect industry practices.

g. Do users seek additional discounts or rebates when using GSA Advantage, Amazon, and Amazon Business?

Based on the GPC survey respondent data, users do not usually seek additional discounts or rebates. However, when participants asked for a discount using GSA Advantage, 72% stated they "sometimes" receive it, and when using Amazon Business, 57% stated they "sometimes" receive it. We suspect that most people, in their personal life, do not ask for an additional discount when purchasing online. Prices listed online are

considered fair and reasonable to a prudent buyer, because of the immediate price comparison available in the Search Engine Results Page.

Because a majority of participants sometimes received an additional discount, we recommend agencies encourage GPC holders to request additional discounts, especially when making purchases above the micro-purchase threshold. In the future, the government should seek rebates based on annual dollars spent with our largest vendors. Seeking rebates based on annual sales could result in a greater return than smaller, fragmented discounts. We recommend the government negotiate annual rebates with Amazon Business and GSA Advantage to leverage the totality of GPC spend.

h. Are users satisfied with GSA Advantage, Amazon, and Amazon Business?

Based on the GPC survey respondent data, users ranked their satisfaction in the following order of preference: Amazon.com, Amazon Business, and GSA Advantage. While a majority of the participants were satisfied with Amazon's platforms, the participants' ratings were more diverse for GSA Advantage, ranging from very dissatisfied to somewhat satisfied.

While GSA Advantage works well for purchases above the micro-purchase threshold and strategic sourcing initiatives, GPC users do not like the minimum purchase requirements, shipping policies, return policies, or Search Engine Results Page. However, GSA Advantage continues to improve. Older purchasers with more experience seem to have seen the improvements and have grown comfortable with the platform.

i. Are vendor ratings important to users, and if so, do they make purchasing decisions based on these ratings?

Based on the GPC survey data, vendor ratings were important to GPC users. Most GPC user make purchasing decisions based on vendor ratings. Currently, Amazon.com and Amazon Business display vendor ratings, while GSA Advantage does not. While GSA Advantage stated that they cannot provide vendors with ratings because it would show favoritism, we believe it would not violate any laws because the ratings would be given by purchasers, not by GSA.

We recommend GSA adopt vendor ratings in the GSA Advantage system. Vendor ratings and reviews are a common industry practice, and the public has come to expect this information prior to making a purchase. Vendor ratings will give GPC users more confidence in their purchasing decisions, and in turn, the platform would benefit.

j. Are product reviews important to users, and if so, do they make purchasing decisions based on these reviews?

Based on the GPC survey data, 92% of participants stated that product reviews were important. Users said they do make purchasing decisions based on product reviews. Currently, Amazon.com and Amazon Business allow users to rate products, while GSA Advantage does not. GSA Advantage does not plan to add product ratings in the foreseeable future.

We recommend GSA Advantage adopt product reviews. Just like vendor ratings, product reviews are a common industry practice, and consumers expect to have this information. Product reviews will also give GPC users more confidence in products purchased from GSA Advantage.

k. If users could choose, which GPC platform would they prefer?

Based on the GPC survey data, 78% of users would choose Amazon Business or Amazon.com over GSA Advantage. Further research should explore why users prefer one online ordering platform over another. From our survey, we found that most GPC users prefer Amazon to GSA Advantage. We found certain factors, such as age, affect a user's preference, but we did not explore why.

While most GPC users prefer Amazon Business or Amazon.com over GSA Advantage, the Amazon Business website needs to improve to provide the best value to the Air Force. Amazon Business should require vendors to update their small business information through formal registration with SBA.gov. Designation of small business should be verified by Amazon Business and clearly displayed in the search results. Shipping policies and prices should be standardized. Amazon is known for free, two-day shipping, but Amazon Business' shipping days and prices are not consistent with vendors offering the same, or similar, items. Furthermore, the Air Force and Amazon Business

must codify all terms and conditions to protect the privacy and financial security of Air Force users. Finally, Amazon Business should expressly state the type and granularity of the data the Air Force will receive for purchases made via their platform.

l. Should commercial entities become a preferred or prioritized source when utilizing the GPC?

Commercial entities should become a preferred or prioritized source when utilizing the GPC. Commercial platforms like Amazon Business offer well-known and trusted shipping and return policies, and may be able to provide the government with better transactional level data. GPC users should use the platform that allows them to purchase a reliable product from trusted vendors, at the best price, while maximizing the value of their time.

m. How do we enable more business analytics / performance management of GPC spend?

While commercial ordering websites could offer the Air Force greater data granularity, the Air Force GPC data analytics process must improve to benefit from better data. Our data analysis is only as reliable as the GPC user that inputs their order information into the U.S. Bank website. Currently, GPC users have the ability to input random and erroneous item descriptions for each charge reconciled within U.S. Bank's website—those item descriptions may not reflect what was actually purchased. If a user inputs false or inaccurate data that an approving official subsequently approves, bad data is captured for that purchase. Bad data ultimately prevents the Air Force from performing an accurate spend analysis. For example, while sorting through the Air Force's data, we found that the Air Force spent approximately $84,000 on "GSA catalogs." Of course, GSA catalogs are not available for purchase. This example highlights the need for accurate data capture to better understand trends in GPC-based spending.

To understand GPC data, standardization and accountability are key. At the lowest level, GPC users should be required to input standardized item descriptions that accurately describe the purchase. U.S. Bank could provide a drop-down menu with options for commonly-purchased items, such as "toner" or "paper." Next, GPC user

should be required to input accurate and complete PSCs or manufacturer part numbers. Finally, approving officials and installation-level GPC program managers should be held accountable for the quality of GPC user inputs.

Amazon Business promised to provide the Air Force transactional level data. However, we were not able to confirm the details of the promised data because Amazon Business did not participate in our interview. Amazon Business' pilot program is currently being launched at a few test bases across the Air Force. While data from the pilot are not yet available for analysis in this research, we recommend future researchers perform another GPC survey to analyze GPC users' thoughts and preferences of the Amazon Business pilot compared to GSA Advantage. We also recommend future researchers compare the transactional level data provided by Amazon Business to the data provided by GSA Advantage.

Future research should also compare a breadth of item categories between platforms, including items above the Simplified Acquisition Threshold (SAT). For our research, we only compared the most frequently purchased items, which was primarily office supplies. If the Thornberry Act passes, the government will be able to easily procure items through e-commerce platforms. More research is needed to understand if, and how, the Air Force will benefit from purchasing larger dollar commodities from commercial sources vice GSA Advantage.

Future research should include an analysis of strictly commercially-available items. For our spend analysis, we compared AbilityOne and Skilcraft items on Amazon Business and GSA Advantage. We believe these items were more expensive on Amazon Business' website because most items were sold through third party vendors. Further, researchers should explore supply chain integrity on commercial ordering websites, as counterfeit items have been a problem on Amazon.com.

B. CONCLUSION

GPC holders should utilize the platform that allows them to purchase a reliable product from trusted vendors, at the best price, while maximizing the value of their time. When comparing Amazon Business to GSA Advantage, we found that each online

ordering platform has advantages and disadvantages. GSA Advantage offers discounted commodities, strategically sourced contract vehicles, and tailored data for the Air Force; however, the ordering website is not the best source for GPC purchases due to the minimum purchase requirements.

While cardholders preferred Amazon's platform to GSA Advantage, Amazon Business, in its current state, is not ready for use above the micro-purchase threshold. The terms and conditions of the business arrangement must be codified, which should include data collection and distribution to the government, privacy, and security of government transactions. Amazon Business also needs to improve their interface to ensure users can easily identify small business vendors. We found it difficult to identify if a business was registered with the SBA. Even if a business identified themselves as small in their description, most were not registered with the SBA. While this does not pose an issue for GPC purchases under the micro-purchase threshold, if the Thornberry Act passes, it will become an issue. FAR 19.502-2 states, "Each acquisition of supplies or services exceeding $3,500, but not over $150,000 is automatically reserved exclusively for small business concerns and shall be set aside for small business."

Further, vendors on Amazon Business must clearly label their supply's country of origin. We found it difficult to identify if a product complied with the Buy American Act (FAR 25.1). While not currently an issue for purchases below the micro-purchase threshold, if the Thornberry Act passes, businesses must comply with the Buy American Act for any purchases above the micro-purchase threshold. Once Amazon Business updates its platform, the government will benefit from its ease of use, data collection, shipping and return policies, and two-day shipping.

Commercial e-commerce platforms can offer better pricing, but if data or process savings are not accurately captured, the Air Force will not see any benefit. Ultimately, Amazon Business provides GPC users another purchasing option and could provide cost savings. However, in its current state, Amazon Business still needs improvements before it is ready for enterprise-wide adoption.

APPENDIX A. AMAZON INTERVIEW QUESTIONS

1. Why does Amazon Business desire to work with the Air Force?
2. Can you talk about the successes Amazon Business has experienced doing business with the government?
3. Can you describe the issues and challenges you have experienced doing business with the government?
4. Are you marketing yourself with government customers? If so, how?
5. Can you broadly describe your experience with working with government customers?
6. What kind of feedback do you get from your customers? Positive or negative? What are you doing with negative feedback?
7. Every good business should have a continuous improvement process. What is yours?
8. Do you intend to provide government training for ease of using the site?
9. What is your process for designing your Search Engine Results Page? Is it easy to navigate?
10. Do you have a process for allowing the lowest priced product to filter to the top for customer ease? How easy is finding the lowest price products?
11. How do you feel your prices compare to industry?
12. Will we be able to see vendor and product ratings?
13. What is your policy with regard to federal tax exemptions?
14. Will users be able to tell they are not being charged taxes?
15. What is your process for selecting vendors? Are they chosen through a competitive process?
16. The Air Force has congressionally-mandated small business goals that it must meet each year. How can Amazon Business help the Air Force meet these small business goals?
17. How are you encouraging small business participation? What type of data do you collect on small business?
18. How are you marketing to small businesses?
19. Is it easy for a customer to identify a small business when using the platform?
20. Level three data requires the capture of specific line item data that includes: merchant name, address, invoice number, line item detail (description, quantity, unit of measure, freight, and commodity and product codes. Do you require your participating vendors to provide level three data granularity for the government?
21. Will you compensate vendors for the cost of providing Transaction Level Data? Will this data be standardized (prohibit multiple variations of vendor name, etc.)?

22. Do you plan to offer incentives to the Air Force for working with you to include but not limited to: shipping, policy, returns, price breaks, rebates?

APPENDIX B. GSA ADVANTAGE! INTERVIEW QUESTIONS

1. How long have you worked for GSA Advantage?
2. What is the current goal of GSA Advantage?
3. Can you talk about the successes GSA Advantage has experienced doing business with the government?
4. Can you describe the issues and challenges you have experienced doing business with the government?
5. How is GSA Advantage marketing to government customers?
6. What kind of feedback do you get from your customers? Positive or negative? What are you doing with negative feedback?
7. Every good business should have a continuous improvement process. What is yours?
8. Do you intend to provide government training for ease of using the site?
9. What is your process for designing your Search Engine Results Page? Is it easy to navigate?
10. Does GSA Advantage plan to update the website interface?
11. Do you have a process for allowing the lowest priced product to filter to the top for customer ease? How easy is finding the lowest price products?
12. How do you feel your prices compare to industry?
13. In the future, do you plan to provide vendor or product ratings?
14. How often does GSA Advantage update their Federal Supply Schedules? How often do you update pricing? How often do you recomplete?
15. Do you plan to improve the frequency of updating FSS?
16. The Air Force has congressionally-mandated small business goals that it must meet each year. How can GSA Advantage help the Air Force meet these small business goals?
17. How are you encouraging small business participation? What type of data do you collect on small business?
18. How are you marketing to small businesses?
19. Level three data requires the capture of specific line item data that includes: merchant name, address, invoice number, line item detail (description, quantity, unit of measure, freight, and commodity and product codes. Do you require your participating vendors to provide level three data granularity for the government?
20. Will you compensate vendors for the cost of providing Transaction Level Data? Will this data be standardized (prohibit multiple variations of vendor name, etc.)?
21. Does GSA Advantage plan to offer the Air Force any incentives to encourage government purchase growth to include: shipping, policy, returns, price breaks, rebates?

22. Do you feel GSA Advantage is losing business to online platforms like Amazon Business?
23. How do you plan to maintain market share within the industry?

APPENDIX C. LOWEST AND HIGHEST PRICED ITEMS

Item	Item Description	Average Price	
		GSA	AB
1	Smead Mead Heavyweight 2-Pocket Portfolio	$18.30	$27.56
2	Boise Polaris Premium Multipurpose Paper	$39.25	$47.58
3	7510012360059 Document Protector	$5.32	$7.33
4	Skilcraft Gregg Ruled Steno Book	$8.29	$22.14
5	7530 Notebook, Steno	$16.49	$26.81
6	Double Pocket Portfolio, Letter Size, Dk Blue	$12.42	$13.56
7	Mechanix Wear MP3-F55-010 TAA Compliant	$40.27	$85.63
8	Energizer Industrial Alkaline Batteries, AA	$3.31	$11.49
9	Wilson Jones Basic Round-Ring View Binder Plus Pack, 1" Cap, White	$9.02	$15.32
10	Skilcraft Dry-Erase Markers	$6.06	$10.13
11	G2 Fashion Collection Gel Roller	$6.14	$16.50
12	United Stationers (OP) 8105011958730 Bag Clear 10 Gallon	$9.46	$29.85
13	Brother P-touch ~3/8" (0.35") Black on White Standard Laminated Tape	$8.12	$10.93
14	Saalfeld Redistribution Lysol Surface Disinfectant Cleaner	$6.64	$15.96
15	Accelerator-free Disposable Nitrile Glove, Powder Free, Small	$7.41	$28.23
16	Coppertop Alkaline Batteries Duralock Power Preserve Technology A	$2.54	$10.02
17	753001116786 Self-Stick Note Pads, 3 X 3, Unruled, Yellow	$9.77	$12.84
18	Skilcraft Standard Staples	$1.19	$5.02
19	Vista Gel Pen, Retractable, Rubber Grip, .7mm	$15.05	$27.73
20	Skilcraft Chisel Tip Tube Type Fluorescent Highlighter	$4.73	$13.33
21	Green Military Log Book, Memorandum Book, 5-1/2 X 8 Green LogBook	$3.15	$6.88
22	ESS Eyewear Cross Series Crossbow 2X Kit	$72.69	$79.42
23	Maxell 190025 Canned Air 10 Oz #152 Single	$5.77	$8.11
24	Xerox 106R01434 Toner Cartridge (Magenta,1-Pack)	$282.35	$317.60
25	Retractable Black Barrel Medium Point Ball Point Pen, Black Ink	$5.58	$11.12
26	Samsung DH55E DHE Series - 55" LED display	$2,143.25	$4,132.43
27	HP 502A Cyan Original LaserJet Toner Cartridge	$80.53	$110.76
28	DYMO Standard D1 45010 Labeling Tape (Black Print on Clear Tape)	$8.91	$6.99
29	Post-it Adhesive Note, Repositionable 3" x 3" - Assorted Pastel	$22.83	$38.88
30	Procell Alkaline Batteries, AAA	$4.48	$12.00
31	Avery Slant Ring View Binder, 3" Capacity, 11"x8-1/2", White	$8.31	$16.80
32	Skilcraft 7530-01-600-2030 Bagasse Paper Steno Notebook, 9 x 6 Inch, 80 Sheets	$8.50	$21.49
33	Smead Four-Section Hanging Classification Folder, Legal Size	$7.23	$11.96
34	United Stationers (OP) 7510002828201 CLIPBDR1.25	$0.70	$8.72
35	Mechanix Wear - Original Gloves (X-Large, Black)	$18.82	$13.20
36	Geographics Stock Document Cover, 9.75 x 12.5 Inches, Metallic Blue	$10.17	$12.64
37	Kimberly-Clark Nitrile Exam Gloves, Powder-free, Sterling Gray, X-Large	$22.24	$15.97
38	Sandpiper of California Bugout Backpack - Black	$138.14	$81.96
39	Revision Military Sawfly Deluxe, Small - Black	$63.41	$128.23
40	Skilcraft B3 Aviator Pen Black/Red Ink, MedPoint with Pencil	$14.16	$20.31
41	Rothco Face Mask 3 Hole - Acrylic / Foliage, Size	$3.12	$6.75
42	Dr. Grip Multi 4Plus1 Retractable Pen/Pencil	$9.65	$18.51
43	WBI1DK200 - Webster Drawstring Trash Liner	$36.99	$55.06
44	Camelbak BFM 100oz 3l Hydration Pack Coyote	$201.31	$282.69
45	Mechanics Gloves, Construction, S, Black, PR	$29.41	$35.96
46	ESS Eyewear Profile Goggles Black	$70.90	$85.50
47	Scrubs Insect Shield Insect Repellent Wipes	$77.29	$81.64
48	Open-Frame Touch 2293L 22" LED-Backlit LCD Monitor Black	$503.80	$499.10
49	Skilcraft Free-Flowing Ink Highlighters	$6.55	$10.71
50	Skilcraft - 7510-01-390-0717 - Soft-Sideways Correction Tape	$2.77	$14.66
51	Brother P-touch TZe231, 1/2" (0.47") Black on White	$10.07	$12.16
52	United Stationers (OP) 7520002402411 DISPN,TAP1	$3.13	$11.79
53	Sharpie Twin Tip Permanent Markers, Fine and Ultra Fine, Black, 2 Pack	$5.69	$3.58
54	Scotch 3/4 x 300 Inches Expressions Magic Tape with Dispenser, Red	$2.18	$5.73
55	Bostitch - Xtreme Duty Automatic Stapler, 180-Sheet, Silver/Black	$73.10	$106.12
56	Bh-37-Ss 3X7 Ss Wire Scratch Brush, Sold As 1 Each	$0.97	$13.10
57	Little Giant 10101LG 300-Pound Duty Rating Ladder System, 11-Foot	$320.37	$192.33
58	Brother P-touch Personal Labeler (PT-90)	$34.61	$39.93
59	Bulwark Contractor Coverall, Excel FR, NAVY, RG52	$68.27	$64.27
60	Camelbak S CW05-08 Cold Weather Gloves, Black	$37.83	$44.50

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APPENDIX D. BULK AND QUANTITY DISCOUNTS

Item	Item Description	Quantity Required & Discount			
		GSA		AB	
1	Smead Mead Heavyweight 2-Pocket Portfolio	-	-	-	-
2	Boise Polaris Premium Multipurpose Paper	3,000 - 4,999 5,000 - 9,999 10,000+	2.00% 3.00% 5.00%	4+	0.98%
3	7510012360059 Document Protector	-	-	-	-
4	Skilcraft Gregg Ruled Steno Book	-	-	-	-
5	7530 Notebook, Steno	-	-	-	-
6	Double Pocket Portfolio, Letter Size, Dk Blue	-	-	-	-
7	Mechanix Wear MP3-F55-010 TAA Compliant	25,000 - 99,999,999	2.00%	-	-
8	Energizer Industrial Alkaline Batteries, AA	-	-	-	-
9	Wilson Jones Basic Round-Ring View Binder Plus Pack, 1" Cap, White	20,001 - 99,999,999	1.00%	4+	0.92%
10	Skilcraft Dry-Erase Markers	-	-	-	-
11	G2 Fashion Collection Gel Roller	-	-	-	-
12	United Stationers (OP) 8105011958730 Bag Clear 10 Gallon	-	-	-	-
13	Brother P-touch ~3/8" (0.35") Black on White Standard Laminated Tape	-	-	-	-
14	Saalfeld Redistribution Lysol Surface Disinfectant Cleaner	-	-	-	-
15	Accelerator-free Disposable Nitrile Glove, Powder Free, Small	-	-	-	-
16	Coppertop Alkaline Batteries Duralock Power Preserve Technology A	5,000 - 10,000 10,001 - 20,000 20,001 - 30,000 30,001 - 40,000 40,001 - 50,000 50,001 - 99,999,999	0.5% 1.0% 2.0% 3.0% 4.0% 5.0%	-	-
17	753001116786 Self-Stick Note Pads, 3 X 3, Unruled, Yellow	-	-	-	-
18	Skilcraft Standard Staples	-	-	10+	4.97%
19	Vista Gel Pen, Retractable, Rubber Grip, .7mm	-	-	-	-
20	Skilcraft Chisel Tip Tube Type Fluorescent Highlighter	-	-	-	-
21	Green Military Log Book, Memorandum Book, 5-1/2 X 8 Green LogBook	-	-	-	-
22	ESS Eyewear Cross Series Crossbow 2X Kit	-	-	-	-
23	Maxell 190025 Canned Air 10 Oz #152 Single	-	-	-	-
24	Xerox 106R01434 Toner Cartridge (Magenta,1-Pack)	5,000 - 9,999 10,000+	0.03% 1.0%	-	-
25	Retractable Black Barrel Medium Point Ball Point Pen, Black Ink	-	-	-	-
26	Samsung DH55E DHE Series - 55" LED display	-	-	-	-
27	HP 502A Cyan Original LaserJet Toner Cartridge	-	-	-	-
28	DYMO Standard D1 45010 Labeling Tape (Black Print on Clear Tape)	-	-	-	-
29	Post-it Adhesive Note, Repositionable 3" x 3" - Assorted Pastel	-	-	-	-
30	Procell Alkaline Batteries, AAA	-	-	-	-
31	Avery Slant Ring View Binder, 3" Capacity, 11"x8-1/2", White	-	-	-	-
32	Skilcraft Bagasse Paper Steno Notebook, 9 x 6 Inch, 80 Sheets	-	-	-	-
33	Smead Four-Section Hanging Classification Folder, Legal Size	-	-	-	-
34	United Stationers (OP) 7510002828201 CLIPBDR1.25	-	-	-	-
35	Mechanix Wear - Original Gloves (X-Large, Black)	-	-	-	-
36	Geographics Stock Document Cover, 9.75 x 12.5 Inches, Metallic Blue	-	-	-	-
37	Kimberly-Clark Nitrile Exam Gloves, Powder-free, Sterling Gray, X-Large	-	-	-	-
38	Sandpiper of California Bugout Backpack - Black	-	-	3+	10%
39	Revision Military Sawfly Deluxe, Small - Black	-	-	-	-
40	Skilcraft B3 Aviator Pen Black/Red Ink, MedPoint with Pencil	-	-	-	-
41	Rothco Face Mask 3 Hole - Acrylic / Foliage, Size	-	-	-	-
42	Dr. Grip Multi 4Plus1 Retractable Pen/Pencil	-	-	-	-
43	WBI1DK200 - Webster Drawstring Trash Liner	-	-	-	-
44	Camelbak BFM 100oz 3l Hydration Pack Coyote	-	-	-	-
45	Mechanics Gloves, Construction, S, Black, PR	-	-	-	-
46	ESS Eyewear Profile Goggles Black	-	-	-	-
47	Scrubs Insect Shield Insect Repellent Wipes	-	-	-	-
48	Open-Frame Touch 2293L 22" LED-Backlit LCD Monitor Black	15 - 25 26 - 75 76 - 100 101 - 999,999	1.00% 1.25% 1.50% 2.0%	-	-
49	Skilcraft Free-Flowing Ink Highlighters	-	-	-	-
50	Skilcraft - 7510-01-390-0717 - Soft-Sideways Correction Tape	-	-	5 - 9 10+	1.07% 2.14%
51	Brother P-touch TZe231, 1/2" (0.47") Black on White	-	-	10 - 31 32+	3.69% 7.69%
52	United Stationers (OP) 7520002402411 Dispenser	-	-	-	-
53	Sharpie Twin Tip Permanent Markers, Fine and Ultra Fine, Black, 2 Pack	-	-	-	-
54	Scotch 3/4 x 300 Inches Expressions Magic Tape with Dispenser, Red	-	-	2 3 - 7 8+	22.85% 3603% 53.79%
55	Bostitch - Xtreme Duty Automatic Stapler, 180-Sheet, Silver/Black	-	-	-	-
56	Bh-37-Ss 3X7 Ss Wire Scratch Brush, Sold As 1 Each	-	-	-	-
57	Little Giant 10101LG 300-Pound Duty Rating Ladder System, 11-Foot	-	-	-	-
58	Brother P-touch Personal Labeler (PT-90)	-	-	-	-
59	Bulwark Contractor Coverall, Excel FR, Navy, RG52	-	-	-	-
60	Camelbak S CW05-08 Cold Weather Gloves, Black	-	-	-	-

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APPENDIX E. AMAZON BUSINESS SHIPPING

Item	Item Description	Shipping Time (Days)			Shipping Cost
		Min	Max	Avg	Avg
1	Smead Mead Heavyweight 2-Pocket Portfolio	7	14	8.50	$1.19
2	Boise Polaris Premium Multipurpose Paper	3	14	7.60	$0.00
3	7510012360059 Document Protector	2	17	6.20	$1.98
4	Skilcraft Gregg Ruled Steno Book	6	9	7.50	$8.61
5	7530 Notebook, Steno	2	23	9.10	$4.02
6	Double Pocket Portfolio, Letter Size, Dk Blue	6	16	8.38	$4.78
7	Mechanix Wear MP3-F55-010 TAA Compliant	3	14	7.33	$3.64
8	Energizer Industrial Alkaline Batteries, AA	2	14	7.60	$0.00
9	Wilson Jones Basic Round-Ring View Binder Plus Pack, 1" Cap, White	5	14	8.90	$2.09
10	Skilcraft Dry-Erase Markers	5	23	11.50	$1.50
11	G2 Fashion Collection Gel Roller	5	26	11.60	$2.16
12	United Stationers (OP) 8105011958730 Bag Clear 10 Gallon	6	14	9.00	$6.61
13	Brother P-touch ~3/8" (0.35") Black on White Standard Laminated Tape	2	15	6.20	$0.00
14	Saalfeld Redistribution Lysol Surface Disinfectant Cleaner	6	12	8.50	$4.98
15	Accelerator-free Disposable Nitrile Glove, Powder Free, Small	2	14	7.20	$6.35
16	Coppertop Alkaline Batteries With Duralock Power Preserve Technology A	5	14	8.00	$1.93
17	753001116786 Self-Stick Note Pads, 3 X 3, Unruled, Yellow	2	23	9.10	$2.53
18	Skilcraft Standard Staples	2	22	9.40	$0.00
19	Vista Gel Pen, Retractable, Rubber Grip, .7mm	2	14	8.38	$0.00
20	Skilcraft Chisel Tip Tube Type Fluorescent Highlighter	6	9	7.50	$7.42
21	Green Military Log Book, Memorandum Book, 5-1/2 X 8 Green LogBook	2	9	4.20	$1.56
22	ESS Eyewear Cross Series Crossbow 2X Kit	2	20	8.70	$0.00
23	Maxell 190025 Canned Air 10 Oz #152 Single	6	12	7.90	$0.52
24	Xerox 106R01434 Toner Cartridge (Magenta,1-Pack)	6	20	11.40	$0.00
25	Retractable Black Barrel Medium Point Ball Point Pen, Black Ink	2	42	10.40	$0.00
26	Samsung DH55E DHE Series - 55" LED display	15	47	27.83	$32.93
27	HP 502A Cyan Original LaserJet Toner Cartridge	2	11	9.00	$1.23
28	DYMO Standard D1 45010 Labeling Tape (Black Print on Clear Tape)	2	2	2.00	$0.00
29	Post-it Adhesive Note, Repositionable 3" x 3" - Assorted Pastel	6	22	11.50	$2.19
30	Procell Alkaline Batteries, AAA	2	11	6.80	$2.18
31	Avery Slant Ring View Binder, 3" Capacity, 11"x8-1/2", White	6	14	9.50	$3.86
32	Skilcraft Bagasse Paper Steno Notebook, 9 x 6 Inch, 80 Sheets	6	22	11.90	$2.37
33	Smead Four-Section Hanging Classification Folder, Legal Size	2	22	12.00	$0.00
34	United Stationers (OP) 7510002828201 CLIPBDR1.25	7	14	10.50	$0.00
35	Mechanix Wear - Original Gloves (X-Large, Black)	2	46	13.40	$1.90
36	Geographics Stock Document Cover, 9.75 x 12.5 Inches, Metallic Blue	2	14	8.60	$0.00
37	Kimberly-Clark Nitrile Exam Gloves, Powder-free, Sterling Gray, X-Large	2	11	4.60	$0.52
38	Sandpiper of California Bugout Backpack - Black	2	20	9.40	$0.00
39	Revision Military Sawfly Deluxe, Small - Black	2	20	11.33	$0.00
40	Skilcraft B3 Aviator Pen Black/Red Ink, MedPoint with Pencil	6	11	8.50	$0.00
41	Rothco Face Mask 3 Hole - Acrylic / Foliage, Size	2	14	7.80	$0.00
42	Dr. Grip Multi 4Plus1 Retractable Pen/Pencil	5	11	7.67	$4.01
43	WBI1DK200 - Webster Drawstring Trash Liner	6	12	8.88	$0.00
44	Camelbak BFM 100oz 3l Hydration Pack Coyote	7	43	18.10	$0.00
45	Mechanics Gloves, Construction, S, Black, PR	6	20	13.10	$2.87
46	ESS Eyewear Profile Goggles Black	2	12	6.17	$3.33
47	Scrubs Insect Shield Insect Repellent Wipes	2	11	6.88	$4.10
48	Open-Frame Touch 2293L 22" LED-Backlit LCD Monitor Black	2	11	6.88	$0.00
49	Skilcraft Free-Flowing Ink Highlighters	2	26	10.90	$1.00
50	Skilcraft - 7510-01-390-0717 - Soft-Sideways Correction Tape	2	22	9.80	$0.00
51	Brother P-touch TZe231, 1/2" (0.47") Black on White	2	9	4.30	$0.95
52	United Stationers (OP) 7520002402411 DISPN,TAP1	7	15	14.50	$0.00
53	Sharpie Twin Tip Permanent Markers, Fine and Ultra Fine, Black, 2 Pack	2	12	6.90	$0.90
54	Scotch 3/4 x 300 Inches Expressions Magic Tape with Dispenser, Red	2	24	10.60	$1.00
55	Bostitch - Xtreme Duty Automatic Stapler, 180-Sheet, Silver/Black	5	20	9.90	$3.30
56	Bh-37-Ss 3X7 Ss Wire Scratch Brush, Sold As 1 Each	5	15	9.33	$11.76
57	Little Giant 10101LG 300-Pound Duty Rating Ladder System, 11-Foot	2	16	7.17	$0.00
58	Brother P-touch Personal Labeler (PT-90)	6	15	8.90	$3.50
59	Bulwark Contractor Coverall, Excel FR, navy, RG52	7	27	12.80	$0.00
60	Camelbak S CW05-08 Cold Weather Gloves, Black	2	15	7.70	$0.00

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APPENDIX F. GSA ADVANTAGE SHIPPING

Item	Item Description	Shipping Time (Days)			Shipping Cost
	Description	Min	Max	Avg	Avg
1	Smead Mead Heavyweight 2-Pocket Portfolio	1	4	2.2	$0.00
2	Boise Polaris Premium Multipurpose Paper	2	5	3.2	$0.00
3	7510012360059 Document Protector	2	7	4.2	$0.00
4	Skilcraft Gregg Ruled Steno Book	1	7	2.8	$0.00
5	7530 Notebook, Steno	1	7	3.6	$0.00
6	Double Pocket Portfolio, Letter Size, Dk Blue	3	7	4.4	$0.00
7	Mechanix Wear MP3-F55-010 TAA Compliant	3	45	14.2	$0.00
8	Energizer Industrial Alkaline Batteries, AA	1	5	3	$0.00
9	Wilson Jones Basic Round-Ring View Binder Plus Pack, 1" Cap, White	1	5	2.6	$0.00
10	Skilcraft Dry-Erase Markers	2	14	5.2	$0.00
11	G2 Fashion Collection Gel Roller	1	5	2.6	$0.00
12	United Stationers (OP) 8105011958730 Bag Clear 10 Gallon	3	7	4.8	$0.00
13	Brother P-touch ~3/8" (0.35") Black on White Standard Laminated Tape	1	4	2	$0.00
14	Saalfeld Redistribution Lysol Surface Disinfectant Cleaner	2	5	3.6	$0.00
15	Accelerator-free Disposable Nitrile Glove, Powder Free, Small	3	14	6.8	$0.00
16	Coppertop Alkaline Batteries With Duralock Power Preserve Technology A	3	14	7	$0.00
17	753001116786 Self-Stick Note Pads, 3 X 3, Unruled, Yellow	1	5	3.4	$0.00
18	Skilcraft Standard Staples	1	17	5.2	$0.00
19	Vista Gel Pen, Retractable, Rubber Grip, .7mm	3	7	4.2	$0.00
20	Skilcraft Chisel Tip Tube Type Fluorescent Highlighter	3	7	4.4	$0.00
21	Green Military Log Book, Memorandum Book, 5-1/2 X 8 Green LogBook	2	7	3.2	$0.00
22	ESS Eyewear Cross Series Crossbow 2X Kit	3	14	6.8	$0.00
23	Maxell 190025 Canned Air 10 Oz #152 Single	4	30	12.25	$0.00
24	Xerox 106R01434 Toner Cartridge (Magenta,1-Pack)	3	4	3.4	$0.00
25	Retractable Black Barrel Medium Point Ball Point Pen, Black Ink	2	14	6.4	$0.00
26	Samsung DH55E DHE Series - 55" LED display	3	30	10	$0.00
27	HP 502A Cyan Original LaserJet Toner Cartridge	1	5	2.4	$0.00
28	DYMO Standard D1 45010 Labeling Tape (Black Print on Clear Tape)	1	3	2	$0.00
29	Post-it Adhesive Note, Repositionable 3" x 3" - Assorted Pastel	1	5	2	$0.00
30	Procell Alkaline Batteries, AAA	1	7	2.6	$0.00
31	Avery Slant Ring View Binder, 3" Capacity, 11"x8-1/2", White	2	4	2.8	$0.00
32	Skilcraft Bagasse Paper Steno Notebook, 9 x 6 Inch, 80 Sheets	1	14	6.6	$0.00
33	Smead Four-Section Hanging Classification Folder, Legal Size	1	7	3.2	$0.00
34	United Stationers (OP) 7510002828201 CLIPBDR1.25	1	4	2.4	$0.00
35	Mechanix Wear - Original Gloves (X-Large, Black)	7	10	8	$0.00
36	Geographics Stock Document Cover, 9.75 x 12.5 Inches, Metallic Blue	3	3	3	$0.00
37	Kimberly-Clark Nitrile Exam Gloves, Powder-free, Sterling Gray, X-Large	1	5	2.8	$0.00
38	Sandpiper of California Bugout Backpack - Black	5	30	20.4	$0.00
39	Revision Military Sawfly Deluxe, Small - Black	1	30	14	$0.00
40	Skilcraft B3 Aviator Pen Black/Red Ink, MedPoint with Pencil	1	10	4	$0.00
41	Rothco Face Mask 3 Hole - Acrylic / Foliage, Size	7	15	10.75	$0.00
42	Dr. Grip Multi 4Plus1 Retractable Pen/Pencil	1	5	3.2	$0.00
43	WBI1DK200 - Webster Drawstring Trash Liner	2	3	2.4	$0.00
44	Camelbak BFM 100oz 3l Hydration Pack Coyote	2	15	6.8	$0.00
45	Mechanics Gloves, Construction, S, Black, PR	2	7	5	$0.00
46	ESS Eyewear Profile Goggles Black	5	30	10.8	$0.00
47	Scrubs Insect Shield Insect Repellent Wipes	5	7	5.4	$0.00
48	Open-Frame Touch 2293L 22" LED-Backlit LCD Monitor Black	5	5	5	$0.00
49	Skilcraft Free-Flowing Ink Highlighters	1	10	4.2	$0.00
50	Skilcraft - 7510-01-390-0717 - Soft-Sideways Correction Tape	1	7	4	$0.00
51	Brother P-touch TZe231, 1/2" (0.47") Black on White	1	3	2	$0.00
52	United Stationers (OP) 7520002402411 DISPN,TAP1	1	4	2.6	$0.00
53	Sharpie Twin Tip Permanent Markers, Fine and Ultra Fine, Black, 2 Pack	1	10	4.8	$0.00
54	Scotch 3/4 x 300 Inches Expressions Magic Tape with Dispenser, Red	1	7	3.6	$0.00
55	Bostitch - Xtreme Duty Automatic Stapler, 180-Sheet, Silver/Black	1	3	2.2	$0.00
56	Bh-37-Ss 3X7 Ss Wire Scratch Brush, Sold As 1 Each	5	30	12	$0.00
57	Little Giant 10101LG 300-Pound Duty Rating Ladder System, 11-Foot	2	14	6.8	$0.00
58	Brother P-touch Personal Labeler (PT-90)	2	4	3	$0.00
59	Bulwark Contractor Coverall, Excel FR, NAVY, RG52	2	30	10	$0.00
60	Camelbak S CW05-08 Cold Weather Gloves, Black	7	30	14.5	$0.00

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APPENDIX G. VENDOR RATINGS

Item	Item Description	Avg Vendor Rating
1	Smead Mead Heavyweight 2-Pocket Portfolio	88.50%
2	Boise Polaris Premium Multipurpose Paper	90.20%
3	7510012360059 Document Protector	94.20%
4	Skilcraft Gregg Ruled Steno Book	95.00%
5	7530 Notebook, Steno	93.20%
6	Double Pocket Portfolio, Letter Size, Dk Blue	87.00%
7	Mechanix Wear MP3-F55-010 TAA Compliant	99.67%
8	Energizer Industrial Alkaline Batteries, AA	97.00%
9	Wilson Jones Basic Round-Ring View Binder Plus Pack, 1" Cap, White	91.20%
10	Skilcraft Dry-Erase Markers	93.50%
11	G2 Fashion Collection Gel Roller	91.60%
12	United Stationers (OP) 8105011958730 Bag Clear 10 Gallon	88.00%
13	Brother P-touch ~3/8" (0.35") Black on White Standard Laminated Tape	97.00%
14	Saalfeld Redistribution Lysol Surface Disinfectant Cleaner	95.00%
15	Accelerator-free Disposable Nitrile Glove, Powder Free, Small	94.00%
16	Coppertop Alkaline Batteries Duralock Power Preserve Technology A	92.00%
17	753001116786 Self-Stick Note Pads, 3 X 3, Unruled, Yellow	84.00%
18	Skilcraft Standard Staples	94.20%
19	Vista Gel Pen, Retractable, Rubber Grip, .7mm	94.25%
20	Skilcraft Chisel Tip Tube Type Fluorescent Highlighter	94.000%
21	Green Military Log Book, Memorandum Book, 5-1/2 X 8 Green LogBook	98.00%
22	ESS Eyewear Cross Series Crossbow 2X Kit	94.25%
23	Maxell 190025 Canned Air 10 Oz #152 Single	89.00%
24	Xerox 106R01434 Toner Cartridge (Magenta,1-Pack)	94.40%
25	Retractable Black Barrel Medium Point Ball Point Pen, Black Ink	89.00%
26	Samsung DH55E DHE Series - 55" LED display	90.33%
27	HP 502A Cyan Original LaserJet Toner Cartridge	96.50%
28	DYMO Standard D1 45010 Labeling Tape (Black Print on Clear Tape)	96.25%
29	Post-it Adhesive Note, Repositionable 3" x 3" - Assorted Pastel	95.20%
30	Procell Alkaline Batteries, AAA	95.20%
31	Avery Slant Ring View Binder, 3" Capacity, 11"x8-1/2", White	92.50%
32	Skilcraft 7530-01-600-2030 Bagasse Paper Steno Notebook, 9 x 6 Inch, 80 Sheets	92.20%
33	Smead Four-Section Hanging Classification Folder, Legal Size	93.25%
34	United Stationers (OP) 7510002828201 CLIPBDR1.25	90.00%
35	Mechanix Wear - Original Gloves (X-Large, Black)	86.67%
36	Geographics Stock Document Cover, 9.75 x 12.5 Inches, Metallic Blue	94.50%
37	Kimberly-Clark Nitrile Exam Gloves, Powder-free, Sterling Gray, X-Large	94.50%
38	Sandpiper of California Bugout Backpack - Black	94.67%
39	Revision Military Sawfly Deluxe, Small - Black	90.00%
40	Skilcraft B3 Aviator Pen Black/Red Ink, MedPoint with Pencil	95.80%
41	Rothco Face Mask 3 Hole - Acrylic / Foliage, Size	96.25%
42	Dr. Grip Multi 4Plus1 Retractable Pen/Pencil	93.67%
43	WBI1DK200 - Webster Drawstring Trash Liner	94.50%
44	Camelbak BFM 100oz 3l Hydration Pack Coyote	91.40%
45	Mechanics Gloves, Construction, S, Black, PR	90.00%
46	ESS Eyewear Profile Goggles Black	95.00%
47	Scrubs Insect Shield Insect Repellent Wipes	96.75%
48	Open-Frame Touch 2293L 22" LED-Backlit LCD Monitor Black	85.00%
49	Skilcraft Free-Flowing Ink Highlighters	97.25%
50	Skilcraft - 7510-01-390-0717 - Soft-Sideways Correction Tape	95.40%
51	Brother P-touch TZe231, 1/2" (0.47") Black on White	99.50%
52	United Stationers (OP) 7520002402411 DISPN,TAP1	90.00%
53	Sharpie Twin Tip Permanent Markers, Fine and Ultra Fine, Black, 2 Pack	94.50%
54	Scotch 3/4 x 300 Inches Expressions Magic Tape with Dispenser, Red	93.00%
55	Bostitch - Xtreme Duty Automatic Stapler, 180-Sheet, Silver/Black	91.40%
56	Bh-37-Ss 3X7 Ss Wire Scratch Brush, Sold As 1 Each	95.67%
57	Little Giant 10101LG 300-Pound Duty Rating Ladder System, 11-Foot	86.50%
58	Brother P-touch Personal Labeler (PT-90)	96.40%
59	Bulwark Contractor Coverall, Excel FR, NAVY, RG52	89.00%
60	Camelbak S CW05-08 Cold Weather Gloves, Black	94.20%

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APPENDIX H. PRODUCT ORIGIN

Item	Item Description	Supplier	Product Origin
1	Smead Mead Heavyweight 2-Pocket Portfolio	My Office Innovations MYO	USA
		Blue Cow Office Product	USA
		Shoplet	USA
		ReStockIt	USA
		AMAZON.COM	USA
2	Boise Polaris Premium Multipurpose Paper	Office Depot, Inc.	USA
		My Office Innovations	USA
		Shoplet	USA
		Bison Office	USA
		Clean It Supply	USA
3	7510012360059 Document Protector	Queenkim98	USA
		Bargain Bosses LLC	USA
		L Palms LLP	Unknown
		Acedepot	USA
		GTN Office Basics	USA
4	Skilcraft Gregg Ruled Steno Book	Corgi Lamps	China
5	7530 Notebook, Steno	Brian Delrosario	USA
		My Office Innovations	USA
		Rock Shop Central	USA
		Independence Fulfillment Services	USA
		Alliance (SUPPLY)	USA
6	Double Pocket Portfolio, Letter Size, Dk Blue	Club Wipes	USA
		BGMD	USA
		National Card Supply	USA
		EM Graphic	USA
7	Mechanix Wear MP3-F55-010 TAA Compliant	Lambele	USA
		Exclusive Sales Online	Azerbaijan
		Faithfulness Books	USA
8	Energizer Industrial Alkaline Batteries, AA	Sim Supply, INC.	USA
		Basic Batteries, INC.	Unknown
		Medical Supply MI	USA
		C.B.C. Supply	Unknown
		BN Products	Unknown
9	Wilson Jones Basic Round-Ring View Binder Plus Pack, 1" Cap, White	Sim Supply, INC.	USA
		Buy Online Now	Unknown
		Shoplet	USA
		Bison Office	Unknown
		My Office Innovations	USA
10	Skilcraft Dry-Erase Markers	TICA118015	USA
		GTN Office Basics	USA
		AMAZON.COM	USA
		Prime Central Store	USA
		Best Source Office Supplies	Unknown
11	G2 Fashion Collection Gel Roller	Plexsupply	USA
		My Office Innovations	USA
		Office Chase Corp	USA
		Techno City INC.	USA
		American Shopping	USA
12	United Stationers (OP) 8105011958730 Bag Clear 10 Gallon	My Office Innovations	USA
		Alliance (SUPPLY)	USA
13	Brother P-touch ~3/8" (0.35") Black on White Standard Laminated Tape	AMAZON.COM	USA
		Anthony's Things For Sale	USA
		Pop Culture 2000	USA
		Zack Electronics INC	Unknown
		Smart Toners	USA
14	Saalfeld Redistribution Lysol Surface Disinfectant Cleaner	Treasure Zone	N/A
		Cascade Healthcare Solutions	N/A
15	Accelerator-free Disposable Nitrile Glove, Powder Free, Small	AMAZON.COM	USA
		Azzid	USA
		TECHNI-TOOL	USA
		Alliance (SUPPLY)	USA
		Petropars	USA
16	Coppertop Alkaline Batteries Duralock Power Preserve Technology A	Smart Toners	USA
		Shoplet	USA
		My Office Innovations	USA
		PLEXSUPPLY	USA
17	753001116786 Self-Stick Note Pads, 3 X 3, Unruled, Yellow	Bargain Bosses LLC	USA
		Book Seller	USA
		Ace Depot	USA
		My Office Innovations	USA
		Blue Cow Office Products	USA
18	Skilcraft Standard Staples	War Dog Surplus	USA
		Prime Central Store	USA
		Indepedence Fulfillment Services	USA
		Best Source Office Supplies	USA
		Ace Depot	USA
19	Vista Gel Pen, Retractable, Rubber Grip, .7mm	Quality Supply Shop	USA
		Blue Cow Office Products	USA
		My Office Innovations	USA
		Junipers'	USA
20	Skilcraft Chisel Tip Tube Type Fluorescent Highlighter	Low Markup INC.	USA
		Corgi Lamps	Shanghai

21	Green Military Log Book, Memorandum Book, 5-1/2 X 8 Green LogBook	Deal Outlets	Unknown
		Tactical	Unknown
		Northland Wholesale	USA
		Smart Life	Unknown
		Low Markup INC.	USA
22	ESS Eyewear Cross Series Crossbow 2X Kit	AMAZON.COM	USA
		Foundry 35	Unknown
		Gatzies	Unknown
		ECOP!	USA
		Earthfair	USA
23	Maxell 190025 Canned Air 10 Oz #152 Single	Technology Galaxy	USA
		Year-Round Deals	USA
		Galatics	Unknown
		Fast Market Pro	USA
		eCop!	USA
24	Xerox 106R01434 Toner Cartridge (Magenta,1-Pack)	Smart Toners	USA
		Rock Bottom Sales	USA
		CSA Systems	USA
		Your Toner Source	Unknown
		Fast Market Pro	USA
25	Retractable Black Barrel Medium Point Ball Point Pen, Black Ink	My Office Innovations	USA
		Norex Supply	USA
		Closeouts For Less	USA
		Independence Fulfillment Services	USA
		Quality Supply Shop	USA
26	Samsung DH55E DHE Series - 55" LED display	Polebright	USA
		Instock Group	England
		E-Commerce World	Italy
27	HP 502A Cyan Original LaserJet Toner Cartridge	Supply Stop	USA
		USA Primetime Deals	USA
		AMAZON.COM	USA
		Elect-Deals	USA
		Edealertech	Unknown
28	DYMO Standard D1 45010 Labeling Tape (Black Print on Clear Tape)	AMAZON.COM	USA
		West Audio	USA
		Imarket USA	USA
		Express R US	USA
		XPOSA	USA
29	Post-it Adhesive Note, Repositionable 3" x 3" - Assorted Pastel	Plex Supply	USA
		Techno City INC	USA
		Office Chase CORP.	USA
		Wonderlands'	USA
		Best Source Office Supplies	Unknown
30	Procell Alkaline Batteries, AAA	Laser Pro Compny	USA
		Paul Miller Store N	USA
		Big Apples Supplies	USA
		Smart Toners	USA
		Plex Supply	USA
31	Avery Slant Ring View Binder, 3" Capacity, 11"x8-1/2", White	My Office Innovations	USA
		Corgi Lamps	Shanghai
32	Skilcraft 7530-01-600-2030 Bagasse Paper Steno Notebook, 9 x 6 Inch, 80 Sheets	My Office Innovations	USA
		Independence Fulfillment Services	USA
		Alliance (SUPPLY)	USA
		Best Source Office Supplies	Unknown
		Buy VPC	USA
33	Smead Four-Section Hanging Classification Folder, Legal Size	AMAZON.COM	USA
		Buy DMI INC	USA
		Supermart	USA
		Mid-States Beauty	USA
		Best Source Office Supplies	Unknown
34	United Stationers (OP) 7510002828201 CLIPBDR1.25	My Office Innovations	USA
35	Mechanix Wear - Original Gloves (X-Large, Black)	Best Thai	Bangkok
		AMAZON.COM	USA
		WIPPIV44	USA
		VMI Supply INC	USA
		Hoerr Racing Products	USA
36	Geographics Stock Document Cover, 9.75 x 12.5 Inches, Metallic Blue	AMAZON.COM	USA
		Smart Toners	USA
		Buy DMI INC	USA
		Closeouts For Less	USA
		Independence Fulfilllment Services	USA
37	Kimberly-Clark Nitrile Exam Gloves, Powder-free, Sterling Gray, X-Large	Spina Dental/Medical	USA
		Maxcare	Unknown
		Premium Supplies Limited	Unknown
		AMAZON.COM	USA
		Urthshop	USA
38	Sandpiper of California Bugout Backpack - Black	AMAZON.COM	USA
		Luggage Pros	USA
		Foundry 35	Unknown
		EBAGS	Unknown
		T&T Online Warehouse LLC	USA
39	Revision Military Sawfly Deluxe, Small - Black	Amazon.com	USA
		Shop Net	USA
		Online Dealz	USA
40	Skilcraft B3 Aviator Pen Black/Red Ink, MedPoint with Pencil	My Office Innovations	USA
		Northland Wholesale	USA
		Well Care Supply	USA
		2Fold Supply	USA
		My Pilot Store	Unknown

41	Rothco Face Mask 3 Hole - Acrylic / Foliage, Size	AMAZON.COM	USA
		Direct Premium Buys	Unknown
		CSE Offroad	USA
		Go Commando Gear	Unknown
		Army Universe	Unknown
42	Dr. Grip Multi 4Plus1 Retractable Pen/Pencil	Shoplet	USA
		Plex Supply	USA
		Corgi Lamps	China
43	WBI1DK200 - Webster Drawstring Trash Liner	Shoplet	USA
		Buy SMI INC	USA
		Smart Toners	USA
		Dealz Store	Unknown
44	Camelbak BFM 100oz 3l Hydration Pack Coyote	Star Trade Advantage	USA
		JK LLC	China
		Military Luggage Company	USA
		Shop Net	USA
		Online Dealz	USA
45	Mechanics Gloves, Construction, S, Black, PR	Data Alchemy	USA
		Materro LLC	USA
		Shop Net	USA
		Online Dealz	USA
		Nebula Store	USA
46	ESS Eyewear Profile Goggles Black	AMAZON.COM	USA
		Shop Hydra	USA
		Owyhee Group Companies	USA
47	Scrubs Insect Shield Insect Repellent Wipes	Source Direct Supplier	Unknown
		ISC Supplies	USA
		Forest Hills Trading	Unknown
		A2ZID	USA
48	Open-Frame Touch 2293L 22" LED-Backlit LCD Monitor Black	Silaxon	USA
		AMAZON.COM	USA
		Dec Trader	USA
		Sato Discount	USA
		ASC Enterprise	USA
49	Skilcraft Free-Flowing Ink Highlighters	Wanna Dance Now 2	USA
		Independence Fulfillment Services	USA
		Prime Central Store	USA
		Best Source Office Supplies	USA
		AMAZON.COM	USA
50	Skilcraft - 7510-01-390-0717 - Soft-Sideways Correction Tape	TJC Sales	USA
		Best Source Office Supplies	USA
		My Office Innovations	USA
		Office Supply INC	USA
		Buy VPC	USA
51	Brother P-touch TZe231, 1/2" (0.47") Black on White	Adorsales	USA
		AMAZON.COM	USA
		Ptouch Direct	USA
		Avent Supplies	USA
		Bottom Dollar	Unknown
52	United Stationers (OP) 7520002402411 DISPN,TAP1	My Office Innovations	USA
53	Sharpie Twin Tip Permanent Markers, Fine and Ultra Fine, Black, 2 Pack	AMAZON.COM	USA
		975 Supply	USA
		Phara Packs	USA
		Berman Sales	Unknown
		Kimeco	USA
54	Scotch 3/4 x 300 Inches Expressions Magic Tape with Dispenser, Red	Supermart	USA
		Max Warehouse	USA
		AMAZON.COM	USA
		Beachaudio	USA
		Auntdim	Unknown
55	Bostitch - Xtreme Duty Automatic Stapler, 180-Sheet, Silver/Black	Office Chase Corp	USA
		Axicore	USA
		Plex Supply	USA
		Techno City INC	USA
		Nebula Store	USA
56	Bh-37-Ss 3X7 Ss Wire Scratch Brush, Sold As 1 Each	Plex Supply	USA
		TJ-Max	USA
		Advanturer's Bag	USA
57	Little Giant 10101LG 300-Pound Duty Rating Ladder System, 11-Foot	AMAZON.COM	USA
		1-800 Ladders	USA
		Pro Ladder	USA
58	Brother P-touch Personal Labeler (PT-90)	Red Star	USA
		Bayshore Corp	Unknown
		Gopar	Unknown
		Felix Printer	USA
		Yangel Tech	USA
59	Bulwark Contractor Coverall, Excel FR, NAVY, RG52	Fire And Safety Equipment	USA
		Full Source	USA
		Pulse Uniform	USA
		Rizno INC	USA
		Occupational Apparel	USA
60	Camelbak S CW05-08 Cold Weather Gloves, Black	Outfitter Country	USA
		ECOP!	USA
		Action Gear	USA
		Army Property	Unknown
		Outdoor Shopping	USA

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APPENDIX I. MINIMUM ORDER REQUIREMENTS

Item	Item Description	Lowest MOR	Highest MOR	Average MOR
1	Smead Mead Heavyweight 2-Pocket Portfolio	$50.00	$100.00	$80.00
2	Boise Polaris Premium Multipurpose Paper	$100.00	$120.00	$106.00
3	7510012360059 Document Protector	$50.00	$100.00	$80.00
4	Skilcraft Gregg Ruled Steno Book	$25.00	$100.00	$55.75
5	7530 Notebook, Steno	$25.00	$28.75	$25.75
6	Double Pocket Portfolio, Letter Size, Dk Blue	$50.00	$100.00	$80.00
7	Mechanix Wear MP3-F55-010 TAA Compliant	$1.00	$25.00	$19.00
8	Energizer Industrial Alkaline Batteries, AA	$25.00	$100.00	$65.00
9	Wilson Jones Basic Round-Ring View Binder Plus Pack, 1" Cap, White	$50.00	$100.00	$80.00
10	Skilcraft Dry-Erase Markers	$25.00	$100.00	$55.00
11	G2 Fashion Collection Gel Roller	$50.00	$100.00	$85.00
12	United Stationers (OP) 8105011958730 Bag Clear 10 Gallon	$1.00	$100.00	$80.20
13	Brother P-touch ~3/8" (0.35") Black on White Standard Laminated Tape	$30.00	$100.00	$66.00
14	Saalfeld Redistribution Lysol Surface Disinfectant Cleaner	$25.00	$100.00	$70.00
15	Accelerator-free Disposable Nitrile Glove, Powder Free, Small	$1.00	$100.00	$35.20
16	Coppertop Alkaline Batteries Duralock Power Preserve Technology A	$25.00	$100.00	$70.00
17	753001116786 Self-Stick Note Pads, 3 X 3, Unruled, Yellow	$25.00	$100.00	$61.00
18	Skilcraft Standard Staples	$11.79	$100.00	$43.36
19	Vista Gel Pen, Retractable, Rubber Grip, .7mm	$25.00	$100.00	$55.75
20	Skilcraft Chisel Tip Tube Type Fluorescent Highlighter	$25.00	$100.00	$45.75
21	Green Military Log Book, Memorandum Book, 5-1/2 X 8 Green LogBook	$50.00	$100.00	$90.00
22	ESS Eyewear Cross Series Crossbow 2X Kit	$1.00	$100.00	$35.20
23	Maxell 190025 Canned Air 10 Oz #152 Single	$50.00	$100.00	$87.50
24	Xerox 106R01434 Toner Cartridge (Magenta,1-Pack)	$50.00	$100.00	$80.00
25	Retractable Black Barrel Medium Point Ball Point Pen, Black Ink	$25.00	$120.00	$76.80
26	Samsung DH55E DHE Series - 55" LED display	$50.00	$100.00	$90.00
27	HP 502A Cyan Original LaserJet Toner Cartridge	$50.00	$100.00	$80.00
28	DYMO Standard D1 45010 Labeling Tape (Black Print on Clear Tape)	$100.00	$100.00	$100.00
29	Post-it Adhesive Note, Repositionable 3" x 3" - Assorted Pastel	$50.00	$100.00	$65.00
30	Procell Alkaline Batteries, AAA	$25.00	$100.00	$70.00
31	Avery Slant Ring View Binder, 3" Capacity, 11"x8-1/2", White	$35.00	$100.00	$77.00
32	Skilcraft Bagasse Paper Steno Notebook, 9 x 6 Inch, 80 Sheets	$25.00	$100.00	$75.00
33	Smead Four-Section Hanging Classification Folder, Legal Size	$50.00	$100.00	$75.00
34	United Stationers (OP) 7510002828201 CLIPBDR1.25	$25.00	$100.00	$57.80
35	Mechanix Wear - Original Gloves (X-Large, Black)	$100.00	$100.00	$100.00
36	Geographics Stock Document Cover, 9.75 x 12.5 Inches, Metallic Blue	$100.00	$110.00	$103.33
37	Kimberly-Clark Nitrile Exam Gloves, Powder-free, Sterling Gray, X-Large	$50.00	$100.00	$70.00
38	Sandpiper of California Bugout Backpack - Black	$100.00	$200.00	$130.00
39	Revision Military Sawfly Deluxe, Small - Black	$1.00	$25.00	$15.40
40	Skilcraft B3 Aviator Pen Black/Red Ink, MedPoint with Pencil	$50.00	$120.00	$84.00
41	Rothco Face Mask 3 Hole - Acrylic / Foliage, Size	$25.00	$100.00	$56.25
42	Dr. Grip Multi 4Plus1 Retractable Pen/Pencil	$50.00	$100.00	$65.00
43	WBI1DK200 - Webster Drawstring Trash Liner	$25.00	$100.00	$72.00
44	Camelbak BFM 100oz 3l Hydration Pack Coyote	$25.00	$50.00	$30.00
45	Mechanics Gloves, Construction, S, Black, PR	$25.00	$25.00	$25.00
46	ESS Eyewear Profile Goggles Black	$25.00	$100.00	$43.75
47	Scrubs Insect Shield Insect Repellent Wipes	$25.00	$150.00	$65.00
48	Open-Frame Touch 2293L 22" LED-Backlit LCD Monitor Black	$50.00	$300.00	$175.00
49	Skilcraft Free-Flowing Ink Highlighters	$50.00	$100.00	$80.00
50	Skilcraft - 7510-01-390-0717 - Soft-Sideways Correction Tape	$25.00	$100.00	$40.75
51	Brother P-touch TZe231, 1/2" (0.47") Black on White	$50.00	$100.00	$80.00
52	United Stationers (OP) 7520002402411 Dispenser	$50.00	$100.00	$80.00
53	Sharpie Twin Tip Permanent Markers, Fine and Ultra Fine, Black, 2 Pack	$1.00	$150.00	$75.20
54	Scotch 3/4 x 300 Inches Expressions Magic Tape with Dispenser, Red	$50.00	$100.00	$85.00
55	Bostitch - Xtreme Duty Automatic Stapler, 180-Sheet, Silver/Black	$35.00	$100.00	$77.00
56	Bh-37-Ss 3X7 Ss Wire Scratch Brush, Sold As 1 Each	$25.00	$150.00	$71.00
57	Little Giant 10101LG 300-Pound Duty Rating Ladder System, 11-Foot	$25.00	$100.00	$40.00
58	Brother P-touch Personal Labeler (PT-90)	$50.00	$110.00	$87.00
59	Bulwark Contractor Coverall, Excel FR, Navy, RG52	$25.00	$100.00	$70.00
60	Camelbak S CW05-08 Cold Weather Gloves, Black	$1.00	$100.00	$56.50

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